BUSINESS WEEK

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HOW MUCH
Fighting Strength
WILL WE BUY?
PAGE 28

C. Hamilton Moses of Arkansas Power: To build a utility, build a state (page 72)

A McGRAW-HILL PUBLICATION

MAY 30, 1953

TWENTY-FIVE CENTS

"Nationals save us $82,000 a year... repay their cost every 11 months!"

—ZENITH RADIO CORPORATION, CHICAGO

"Our 18 National Accounting and Payroll Machines save us $82,000 a year. This means they repay their cost every 11 months.

"In addition to these important savings, we like the ease of operation with which National Machines handle our Payroll, Sales Distribution, Vouchers Payable, Writing Checks, Earnings Record and Social Security Reports, Pre-Payroll of Accrual Cards, Account Distribution and General Ledger.

"So you can see that we have every reason to be well pleased with our National System."

S Kaplan

Vice-President and Treasurer

No matter what the size or type of *your* business, National Machines soon pay for themselves, then continue to return a handsome *profit*. Nationals do up to ⅔ of the work *automatically*. (Operators are happier, too, because they accomplish their work more easily.) Your nearby National representative will gladly show how much *you* can save with National Machines adapted to *your* needs.

National

THE NATIONAL CASH REGISTER COMPANY, DAYTON 9, OHIO

RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER

One improvement saved $7700— what can better rubber do for you?

ONE easy change saved this plant $7700. V belts were lasting only 7 months. Management changed to grommet belts—an entirely new kind of V belt developed by B. F. Goodrich —*they* lasted 7 *years*. Saving was $7700 in replacement costs alone.

Other B. F. Goodrich improvements are making savings in hundreds of places that are just as impressive. For instance, BFG has developed a radically new conveyor belt, called Griptop, that can carry packages, crates, all sorts of things, at steep angles never possible before, and so make substantial savings in space, equipment costs and time.

Still another example is B. F. Goodrich Armorite, a special rubber so tough it handles rocks, gravel, other things that wear right through steel. Used as chute lining in a Pennsylvania coal mine, Armorite is still in service after 5 years while the steel plates previously used had to be replaced 2 and 3 times a year.

Outlasting other rubber, other materials by many times, is nothing unusual for products improved by B. F. Goodrich research. The cord conveyor belt which can last 10 times longer is typical of this. And the Burstproof steam hose that protects workers from scalding and injury makes a saving in safety as well as money. To find out more about these money-saving improvements and what they can do for you, send the coupon now for free facts on those rubber products you use.

The B. F. Goodrich Company
Dept. M-40, Akron 18, Ohio

I want to know more about the products I've checked below:

- ☐ Grommet V belts
- ☐ Griptop belt
- ☐ Armorite lining
- ☐ Cord conveyor belt
- ☐ Burstproof steam hose
- ☐ Other rubber products (name types)_____

☐ Send information by mail.
☐ Have a BFG distributor see me.

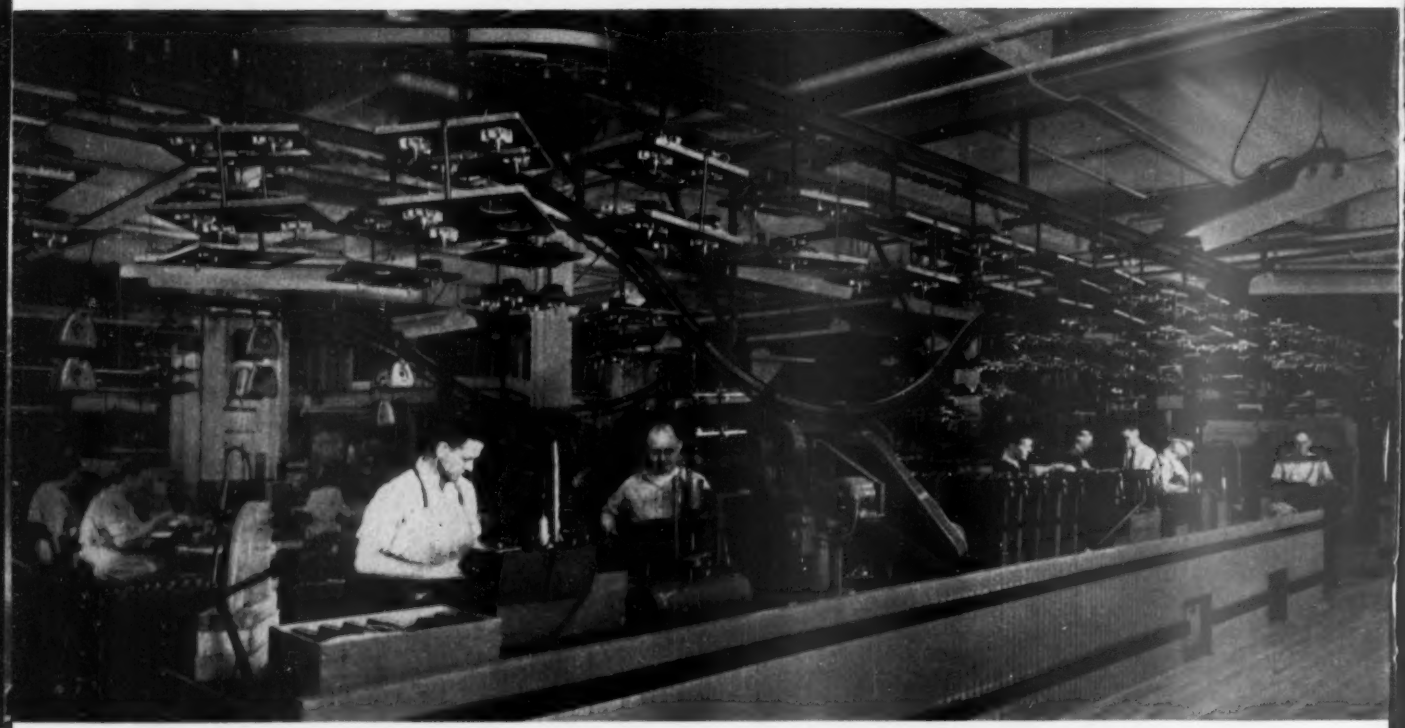
Name_____

Company_____

Address_____

Link-Belt Research and Engineering . . . Working for Industry

How industry "takes to the air" to bring handling costs down



From foundry through final assembly, vacuum cleaner production is synchronized with the help of Link-Belt overhead trolley conveyors.

LINK-BELT overhead trolley conveyors put ceilings to work . . . provide smooth, straight-line, high-capacity production

BUILDING to building . . . department to department . . . in and out of storage—Link-Belt overhead trolley conveyors are the modern answer to synchronized mass production, regardless of plant layout. They handle everything from eggs to coils of steel strip—provide steady flow of materials with all operations timed and coordinated.

Link-Belt's broad materials handling experience can be called on to eliminate difficult production bottlenecks. Material is moved upward, downward, to either side . . . can be kept close to the ceiling where headroom is required . . . or lowered to bring it down to working area. Floor space is released for productive operations, manpower utilized for skilled tasks. Processing such as baking, cooling or drying can be performed in transit.

If there's a place in your plant where your products travel a regular path, let a Link-Belt engineer analyze your handling problem. No other source can offer comparable facilities and experience in planning efficient movement of materials.

Another type of Link-Belt conveying system—TRUCK-TOW—also provides increased speed, accuracy, safety. Here a large trucking firm increased the freight poundage handled per manhour at one terminal by 44%.

ONE SOURCE . . . ONE RESPONSIBILITY FOR MATERIALS HANDLING AND POWER TRANSMISSION MACHINERY

LINK-BELT

LINK-BELT COMPANY

Executive Offices:
307 N. Michigan Ave., Chicago 1, Ill.

Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices, Factory Branch Stores and Distributors in Principal Cities. 13,247

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Shows types, sizes, basic uses

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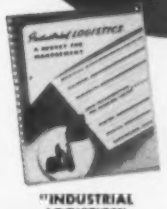
SPECIAL TRUCK ATTACHMENTS

DIE HANDLING in stamping and forging

FREE
TO YOU...
47 Years Experience in Scientific Materials Handling


"INDUSTRIAL LOGISTICS"
The Principles of scientific handling

COIL STEEL HANDLING

MATERIALS HANDLING in FOOD

HANDLING HOT METALS

These booklets are packed with useful information on countless applications of power industrial trucks. They reflect ELWELL-PARKER'S unexcelled know-how in this field; for we have built such trucks exclusively since 1906. Without obligation, write on your letterhead for any of these booklets.

THE ELWELL-PARKER ELECTRIC CO.
4006 St. Clair Ave. • Cleveland 3, Ohio

One strand of wire united us from sea to sea

From this slim start, our national genius produced an era of communications and electric power which changed and enriched our whole way of life.

THROUGH days of dust and heat they had labored westward under the big sky—digging the holes and planting the posts and stringing the wire. Across the wide rivers and the endless plains, through the lands of the Sioux and up over the great mountains of the Continental Divide, to the place where the line from the West was to meet them.

And there, on October 24, 1861, a quick splice completed a miracle and realized a dream. From the Atlantic to the Pacific, with the speed of light, the telegraph had united "One nation . . . *indivisible!*"

The men who went westward with that wire never knew that they were opening the most fabulous period of expansion and development the world has ever seen. They never dreamed that their lone transcontinental telegraph line was but the forerunner of a vast communications system that has criss-crossed this nation with hundreds of millions of miles of copper wire.

The invention and growth of our electrical communications was just one of a hundred developments that have revolutionized our way of life. And as science unfolded one new wonder after another, each sparkled with the bright colors of metals. Today we are living in a civilization made possible by metals and dependent on metals. And in the years to come we shall need more metals to keep pace with our growth.

Why we will continue to have the metals we need

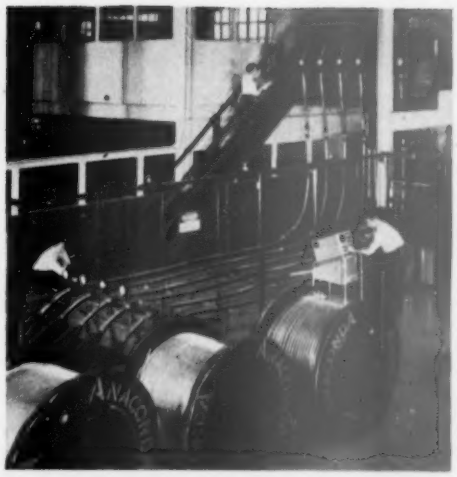
Years ago the metals industry foresaw and prepared to meet the growing metals requirements of our industrial economy. Since 1940, a three-point program of preparation for future demands has been under way:

To produce more metal from domestic sources, including low-grade ores once considered uneconomical to mine.

To increase the production of foreign metal available for import.

To make better use of the metals we have.

Seven years ago Anaconda started on a long range program of preparation for the metals needs of the future. This program is continuing. For the ultimate aim of Anaconda, in common with that of the entire metals industry, is to insure that the metal supplies of our country will not only be adequate for all normal needs of the present, but will meet our needs in the decades to come. 55360A



BETTER ELECTRICAL CABLES for more dependable service. Here, in the Research Laboratory of Anaconda Wire & Cable Company, heavy-duty power cables go through rigorous tests that simulate actual operating conditions. These tests compress into days conditions a cable normally meets only in years. It takes dependable cables to bring you the "Electricity for Better Living" now being featured by our electric utility companies.

MORE COPPER AT HOME. This new, open-pit copper mine at Yerington, Nevada, is an example of how Anaconda is helping to keep pace with our metals requirements. Here powerful shovels strip away overburden—five cubic yards at a "bite"—to expose oxide type copper ore underneath. As part of this mine development, leaching and precipitating plants are being built; another new plant will supply the sulphuric acid for leaching; and a townsite and housing facilities have been constructed.

MORE COPPER FROM ABROAD will come from Anaconda's great open-pit mine at Chuquicamata, Chile, largest known copper ore body in the world. Since 1915 this mine has produced more than 10 billion pounds of copper from oxide ores. Recently Anaconda completed a new plant for processing the sulphide ores, now being mined in addition to oxide ores. The added copper produced by this new project will be available for import to meet the needs of U. S. industry.

ANACONDA® is building to provide more metals

PRODUCERS OF: Copper, zinc, lead, silver, gold, platinum, cadmium, vanadium, selenium, manganese ore, ferromanganese and superphosphate.

MANUFACTURERS OF: Electrical wires and cables, copper, brass, bronze and other copper alloys in such forms as sheet, plate, tube, pipe, rod, wire, forgings, stampings, extrusions, flexible metal hose and tubing.

"ANACONDA" IS A REGISTERED TRADEMARK

No speed limit ON THIS SKY HIGHWAY

RCA Microwave Radio Relay offers fast, all-weather route for two-way communication and control

For high-speed, multi-channel communication—for communication that knows no weather problems—RCA now offers industry a new miracle in practical form—RCA Microwave Radio Relay.

At any instant this new electronic development can handle up to 24 simultaneous messages—relaying a narrow UHF radio beam from tower to tower—over distances of several miles to several thousand miles. Without the vulnerability of wire lines—without the installation and maintenance problems of wire lines—RCA Microwave carries telephone, teletype, and telegraph messages, remote-control impulses, and meter readings at close to 100% continuity of service.

Because "RCA Microwave stays in service when you need it most," it is fast becoming the top communication tool of all types of right-of-way organizations. Pipeline companies, utilities, turnpikes, and government agencies consider it the most dependable way to conduct business over long distances.

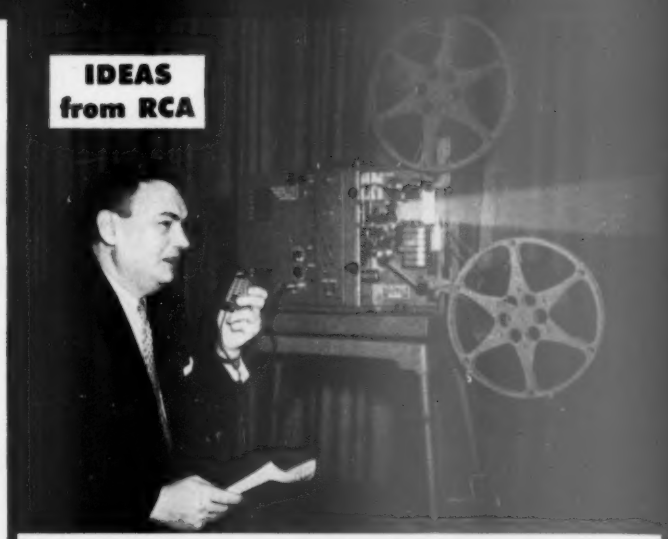
For your copy of RCA's informative booklet, "INTRODUCTION TO MICROWAVE," check item (1) in the coupon at right.

RCA®

RADIO CORPORATION of AMERICA

ENGINEERING PRODUCTS DEPARTMENT CAMDEN, N.J.

5 Trucks do the work of 7 with RCA 2-Way Radio— Industrial trucks can (and *do*) pay off when they're available 100% of the time. At Standard Pressed Steel of Jenkintown, Pa., dispatcher keeps in contact with all trucks—locates operators and dispatches trips without deadheading—with RCA 2-Way Radio. Before radio was installed, Standard Pressed Steel planned a seven-truck fleet to take care of its heavy materials handling load. With RCA 2-Way Radio, five trucks do the job.



Now make your own sound films. RCA now puts two ideas to work in its new magnetic recorder-projector—(1) the finest in 16mm projectors and (2) the speed and savings of magnetic recording. Using a magnetic stripe, applied to film, this new projector lets you add your own sound to new or old films—lets you make a complete sound film for less than $1,000. Change your sound track at any time. Play it back instantly. Use it to make a single film talk to various audience levels.

Metal detector probes through rock. RCA Electronic Metal Detector—for years the standard method of locating stray metal in foods, textiles, plastics, rubber, tobacco, and explosives—has recently taken on a man-sized job in a rock quarry. Its assignment? Locating digger teeth and drill bits to prevent damage to crushers. For normal, in-plant applications, the RCA Metal Detector searches through bulk material or packaged goods to find metal contamination as small as a steel sphere, 0.039" diameter.

Plant sound system proves up. Personnel men used to say, "We *think* work music is an important answer to high production costs." Now, the figures are in, and they make an impressive argument for sound in the plant. In recent checks, RCA discovered work music, provided by an RCA Sound System," relieved monotony"—increased efficiency. (When music was cut off, rejects increased.) Results like these are evidence of RCA's broad background in the techniques of enjoyable in-plant listening.

FOR INFORMATION MAIL COUPON NOW

RCA Engineering Products
Dept. 26 QE, Building 15-1
Camden, New Jersey

Please send me literature on:

1. ☐ RCA Microwave
2. ☐ RCA 2-Way Radio
3. ☐ RCA Magnetic Recorder-Projector
4. ☐ RCA Metal Detector
5. ☐ RCA Sound

Name_____ Title_____

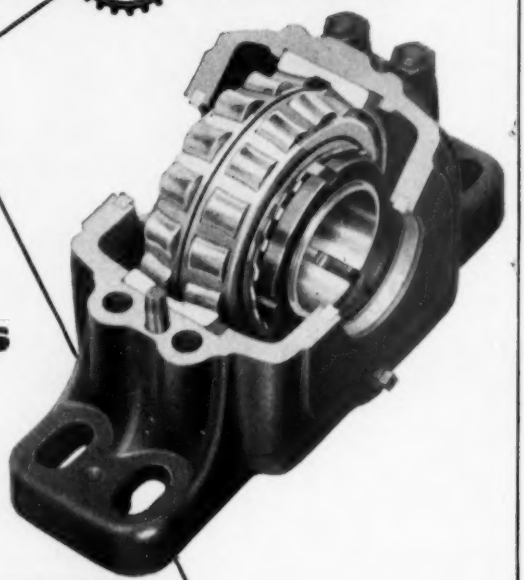
Company_____

Address_____

City_____ Zone____ State_____

at LINK-BELT

ball and roller bearing pillow blocks



are NO-OX-ID protected!

There's good reason why NO-OX-ID Rust Preventives were selected to protect Link-Belt ball and roller bearings.

First, because these precision parts must be protected from corrosion during every stage of production, storage and shipment. Corrosive atmosphere, varying humidity conditions, and fingerprints are only a few of the many factors that contribute to the problem of corrosion. NO-OX-ID was the answer.

Second, the rust preventive used must be non-gumming and must not stain the highly finished surfaces of the bearings. Here again, Dearborn's NO-OX-ID solved the problem.

WHY YOU CAN RELY ON *Dearborn*

Dearborn has specialized in the control of corrosion and the conditioning of water since 1887. This broad experience in rust prevention and water treatment—plus Dearborn's extensive laboratory and research facilities are at your service... at no obligation. You'll find it will pay to...

know your Dearborn engineer

Dearborn

TRADE MARK

COMBATTING CORROSION EVERYWHERE SINCE 1887

Dearborn Chemical Company, Merchandise Mart Plaza, Chicago 54, Ill.

READERS REPORT

The Personal Touch

Dear Sir:

Just in case you have any doubt about the reader-interest in your column, Personal Business, I think you might like to know that we have received more than 783 requests for our circular, Household Storage Units, as a result of your two-paragraph item in the Apr. 18 issue (page 180). The requests and the dimes are still coming in. . . .

MAXINE KENNEDY
EDITOR
UNIVERSITY OF ILLINOIS
SMALL HOMES COUNCIL
URBANA, ILL.

Dear Sir:

I read with interest your article [in the Personal Business section] relative to automobile insurance [BW—Apr.25 '53,p179]. We have been carrying $100,000 and $300,000 personal liability insurance for almost a dozen years and we are a very small concern. The other day one of our local firms was sued for $400,000 as a result of one accident.

Most people carry $5,000 in property damage. This is very inadequate due to the fact that an accident involving damage to a large trailer, which costs in the neighborhood of $15,000 to $20,000, without taking into consideration the cargo, might result in a suit for over $25,000 in property damage alone. Most people that we have talked with have never even given this any consideration. We think it might be doing a service to your readers to call this to their attention. I have been reading BUSINESS WEEK *for a good many years and find it very interesting and helpful. . . .*

JACK MCFADDEN
MANAGER
AMES FURNITURE CO.
PLATTSBURG, N. Y.

Just Like Mother Made

Dear Sir:

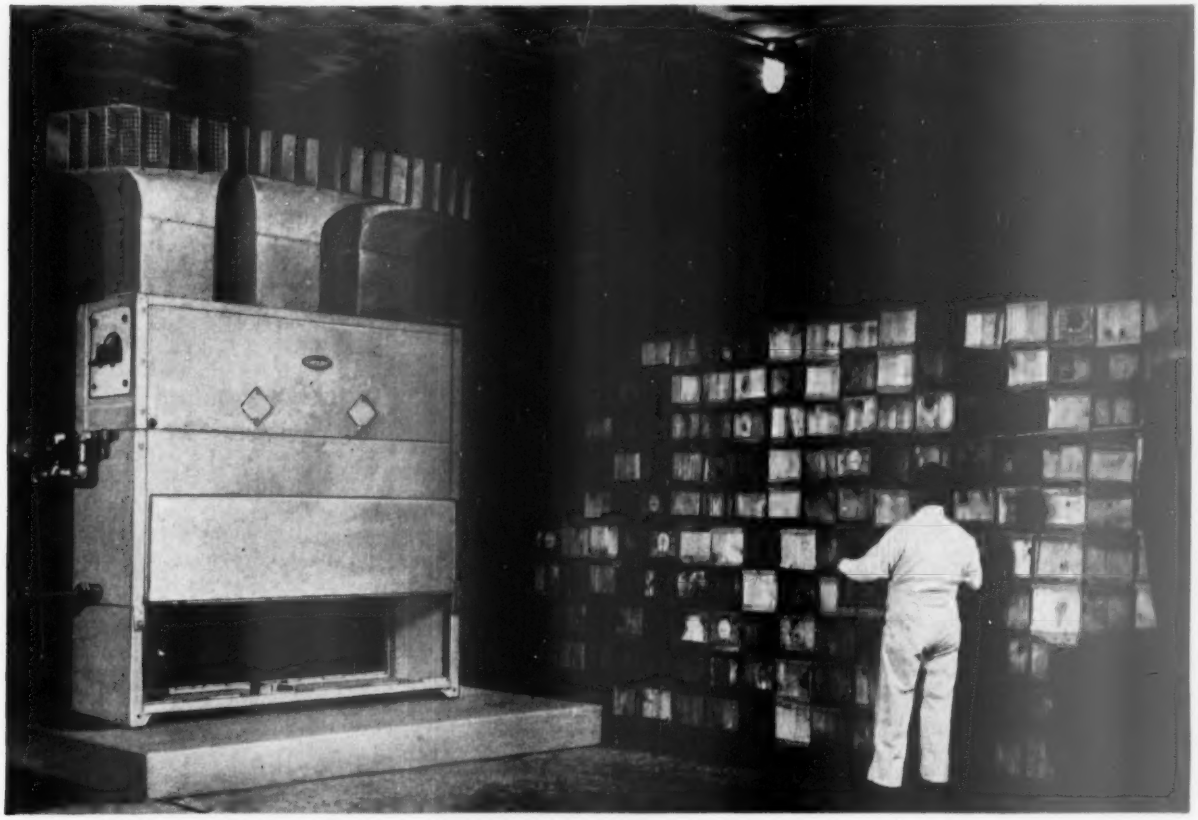
Because of our excellent experience with frozen bread, I can't help adding my support (for what it is worth) to your article [BW—Apr.11'53,p44]. I have no connection with any bread or flour interests.

We like home-made bread, with no softeners in it, and know a small bakery where we get exactly what we want. For several years now, we have gone there every week or so, picked up about six loaves, wrapped them in wax paper and put them in our freezer. Two hours after we take out a frozen loaf, we have bread that is just as if it had come from

refrigeration

key to the multi-million dollar frozen food industry

There's sauce for a million turkey dinners at Bordentown, N. J., where tons of bright red berries from New Jersey's famous cranberry bogs are kept frozen in the Carrier-refrigerated warehouse of the National Cranberry Association. ▪ This "cranberry bank"—refrigerated by the Carrier Cold Diffuser shown in the picture—is just one example of how Carrier helps the great frozen food industry process food economically and serve its customers better. Another example is the frozen food warehouse of the Hopkins, Minn., branch of the Merchants Refrigerating Company, where 50,000 pounds of food a day can be frozen, and as many as 4,000,000 chickens and turkeys *kept* frozen at the peak of tenderness.



▪ Many other frozen food plants are refrigerated by Carrier equipment too. These plants offer you shrimp from the Gulf of Mexico, choice vegetables from our great truck farms, rich ice cream from the dairy country. ▪ Wherever temperature or moisture affects the quality of a food product, Carrier refrigeration or air conditioning can help processing and storage—in canned goods and condiments, beverages and biscuits, candy and chewing gum. *Anything* can be refrigerated efficiently and economically by a Carrier system designed for the job. Perhaps your business can be helped by Carrier engineering. We'll be glad to talk it over with you at any time. Write Carrier Corporation, Syracuse, New York.

Carrier

air conditioning · refrigeration

DOW CORNING SILICONE NEWS
NEW FRONTIER EDITION
TWELFTH OF A SERIES

Tall Tale

Take Paul Bunyan now, he was born to do big things. Outgrew his first cradle in a week, and his second an' third before they was even finished. Finally put him in a twenty-foot trough his old man built overnight and anchored off Kittery Point. But Paul got restless out there and rocked so hard he made a tidal wave that swamped towns from Bath to Bangor. Hearin' folks talking about what to do with him, Paul wades ashore and disappears into the tall timber, wearing his cradle like a cap.

to Fabulous Fact

Same's true of silicones. Ever since they were born in a laboratory at Corning Glass Works, silicones have outgrown their kettles and stills faster than Dow Corning could build them. And we've built them fast. Productive capacity was doubled, redoubled and doubled again in the first eight years. We're celebrating our Tenth Anniversary by building new plants faster than ever because engineers have learned that silicones make the impossible practical.

They're among the Fabulous Facts of our times . . . facts that match the tall tales retold in these columns and assembled now in a useful *new SILICONE booklet entitled*

Tall Tales and Fabulous Facts

Like the tall tales our ancestors told to make the dark forests and endless plains seem less overwhelming, silicones happily resolve complex problems in design, production and maintenance.

First in Silicones
DOW CORNING CORPORATION
Midland, Michigan

Mail this Coupon TODAY for your FREE Copy of Tall Tales and Fabulous Facts

Dow Corning Corporation • Department E-5A • Midland, Michigan
Name _____ Title _____
Company _____
Address _____
City _____ Zone ____ State _____

the oven an hour or so earlier. And when we want a special treat, we unwrap it first and put it straight into the oven at about 250 degrees. When it comes out in about 20 min., it has a crisp crust and soft center and is delicious, but a little hard on the butter and our calorie control. . . .

LIONEL L. JACOBS
LIONEL L. JACOBS & SONS
WAYNE, PA.

The Winnah!

Dear Sir:

Just in case you have not yet received a solution to the puzzle you ran on pages 48 and 49 of the Apr. 18 issue, here's the correct answer:

Picture No. 1 goes with caption No. 1
Picture No. 4 goes with caption No. 2
Picture No. 2 goes with caption No. 3
Picture No. 5 goes with caption No. 4
Picture No. 3 goes with caption No. 5
Picture No. 6 goes with caption No. 6

You didn't mention what the prizes were for correct solutions.

TOM U. ENGELMAN
SOLAR AIRCRAFT CO.
DES MOINES, IOWA

• No prizes except, of course, having the honor of being called "The Winner." Good work!

No Relation

Dear Sir:

While AMA's program of activities and its underlying philosophies can well be applied to management in any enterprise anywhere in the world, I was indeed surprised to learn that we had a Japanese affiliate [BW—Apr.11'53, p112].

Just to set the records straight, the Japan Efficiency Assn. mentioned in your Management Briefs story has no relation whatsoever with AMA, nor has any other group, either foreign or domestic, for that matter.

DONALD G. KEEN
PUBLIC RELATIONS DIRECTOR
AMERICAN MANAGEMENT ASSN.
NEW YORK, N. Y.

Good Engineers in Demand

Dear Sir:

As an engineer and a graduate of the class of 1950, I read with interest your article To Fill the Gap: Catch 'Em Young [BW—May2'53,p60].

What about the older engineers? . . . The number of engineers seeking employment is largely dependent upon the financial remuneration received for such work. It is true that a 21-year-old with a B.S. degree can command a comparatively high salary, but what about the man with 15 or more years experience?

Phillips constantly *"refines"* its refineries

At the Phillips Petroleum Company refinery near Salt Lake City, Utah, a workman puts a modern processing unit "on stream."

Our country is consuming refined petroleum products at a daily rate of 720 gallons for every man, woman and child. And they demand products of ever higher quality.

Keeping pace with this demand, Phillips Petroleum Company refining facilities are steadily "refined" to convert more of the crude oil into high value products. Modern processes and new units enable our plants to turn out improved motor fuels along with increased amounts of valuable petrochemicals.

Much of Phillips growth stems from the development of new processes for scientifically upgrading the world's most versatile raw material—crude oil—to meet precisely the many needs of our American economy.

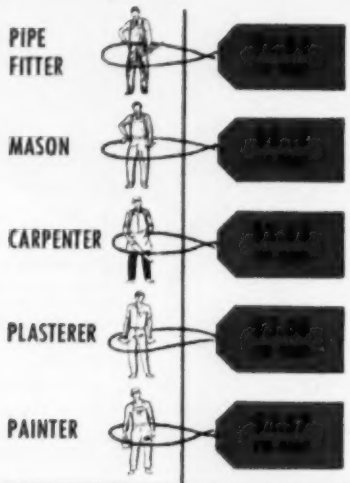
PHILLIPS PETROLEUM COMPANY

Bartlesville, Oklahoma

We Put the Power of Petroleum at America's Service

Phillips 66

PIPE REPAIR JOBS add up to just one thing . . .



CORROSION COSTS YOU MORE THAN WROUGHT IRON

There's nothing like a repair job to point up the false economy of installing low-first-cost piping. Original installations are quickly made by pipe-fitters, but replacements call for hours of work by as many as five crafts, *all carrying a high price tag.* This first failure may wipe out initial savings many times over. And when you consider the often involved production tie-ups and disrupted routine, you can easily see why corrosion costs more than wrought iron.

Because the only true yardstick of economy is the cost per year of service, an increasing number of industries are calling upon the greater durability of Byers Wrought Iron pipe for corrosive services.

Labor costs shown above are national averages according to Bureau of National Affairs, Inc.

Our booklet, The ABC's of WROUGHT IRON, gives an interesting account of the what, why, where of this durable material. Send for your copy. A. M. Byers Company, Clark Building, Pittsburgh, Pa.

BYERS

CORROSION COSTS YOU MORE THAN WROUGHT IRON

WROUGHT IRON

TUBULAR AND HOT ROLLED PRODUCTS

ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS

. . . Many engineers find that after a number of years they can enter more lucrative fields. I know a number of engineering graduates who wandered to greener pastures before they had even worked one year as engineers.

Some companies have found during the last war that they could increase their engineering output with fewer men by better utilization of their engineering personnel. . . .

The military have nothing to shout about. Since 1950 I have spent a year in the service as a recalled reservist, and during that time I had no opportunity to apply my engineering training except for some occasional duties that might be classed under "sanitation engineering." . . .

To catch 'em young is one thing, but you also have to hang on to them.

ERWIN R. BEIT

WHITE PLAINS, N. Y.

Dear Sir:

Your articles To Fill the Gap: Catch 'Em Young [BW—May2'53,p60], and Industry Snaps Up the Grads [BW—May2'53,p117], were of great interest to me since I am employed as a college recruiter for one of the nation's leading companies. One point, however, sort of irritates me and that is the advice of the military to use engineers in engineering positions. This is the pot calling the kettle black. Many of the college engineers we interview are headed for the service via ROTC, NROTC, etc., as infantry officers, line officers, etc. All would jump at the chance to get in engineering work while in the service but rather than use those engineers, the various services actually compete with industry for the few civilian engineers available at graduation. It seems somehow like there might not be full utilization of talents in the armed forces.

NAME WITHHELD

PHILADELPHIA, PA.

Puerto Rican Interest

Dear Sir:

. . . I should like to take this opportunity to congratulate BUSINESS WEEK *for the splendid and factual articles on Puerto Rico and Puerto Ricans which have been appearing in your publication. Articles such as Puerto Ricans Start Up Labor Ladder [BW—May2'53,p151] have been of great help in bringing accurate information to the many thousands who are showing a growing interest in matters relating to Puerto Rico. . . .*

DANIEL DONCHIAN

DIRECTOR OF INFORMATION

COMMONWEALTH OF PUERTO RICO

DEPT. OF LABOR—MIGRATION DIVISION

NEW YORK, N. Y.

Communism vs. capitalism;

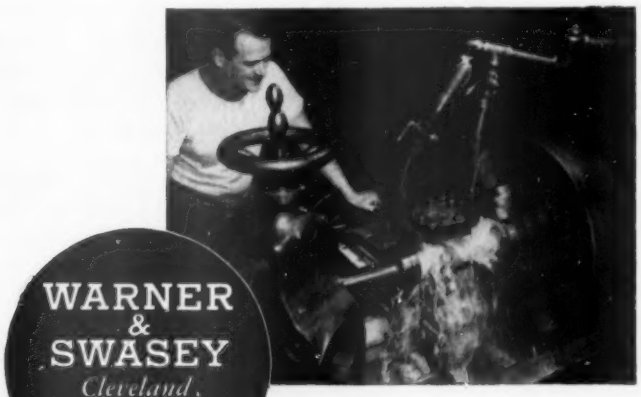
hate vs. horsepower

UNDER COMMUNISM (after 21 years of it, and even before wartime scarcities) a worker had to work 30 *days* to earn 1 pair of shoes. In America, a worker earns a *better* pair of shoes with 8½ *hours* of work. Yet the communists say they want to bring communism here *to benefit the workers!*

Communism *destroys* by spreading hatred and suspicion of one group for another; sapping the strength of both until their liberties can be stolen away. Capitalism *builds* by collecting the savings of individuals and investing them in machines and horsepower which, efficiently used, give American workers a standard of living that is the envy of the world.

30 *days* for a pair of shoes is communism. 8½ *hours* for a better pair is capitalism. *There* is the whole truth about the two systems; all the rest is deliberate dust in your eyes.

Statistics: Labor's Monthly Survey, July, 1946.



WARNER & SWASEY
Cleveland
PRECISION MACHINERY SINCE 1880

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY MACHINE TOOLS, TEXTILE MACHINERY, CONSTRUCTION MACHINERY

UNDISTORTED VIEW

for a BOMBER'S BOSS

Actual in-flight photo taken from cockpit of B-47 bomber.

WHEELING around a high-speed jet bomber such as the B-47 calls for clear thinking *and clear seeing* on the pilot's part.

The pilot and copilot of Boeing Stratojets—and countless other aircraft—get the undistorted view they need because of the optical quality of Plexiglas* canopies, produced by Goodyear Aircraft.

Goodyear Aircraft was the first fabricator to successfully produce large, laminated canopies of Plexiglas — pioneered for this country the double-walled canopy, which prevents fogging and internal frosting, and was the first to design and fabricate an enclosure incorporating unidirectional glass fabric and the latest synthetic fibers in edge attachments.

Goodyear Aircraft has the complete facilities to provide the entire package — engineering, design, testing and fabrication of both the plastic and metal edge assembly itself, of any size.

Whether the job is one of building a vital component such as a transparent enclosure, or a complete aircraft — Goodyear stands out as one of America's most versatile aircraft manufacturers.

Engineering development has been the key to the successes of Goodyear Aircraft Corporation; vast and flexible production facilities have been the pay-off — building airships, complete airplanes, aircraft components, Cross-Wind Landing Wheels; wheels and brakes; fuel tanks, electronic computers, radar and many other types of aviation equipment used on military and commercial aircraft.

Goodyear Aircraft Corporation
Akron 15, Ohio and Litchfield Park, Arizona

*Plexiglas is a trade-mark of Rohm & Haas, Phila., Pa.

GOODYEAR AIRCRAFT

★ PROUD OF ITS PART IN AVIATION'S 50 YEARS OF PROGRESS ★

We think you'll like THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network

Short stories of savings with U·S·S Steels

U·S·S Carilloy Steel provides stronger flap tracks for Convair airliners, yet lops 4 hrs. off machining time and cuts costs 75%.

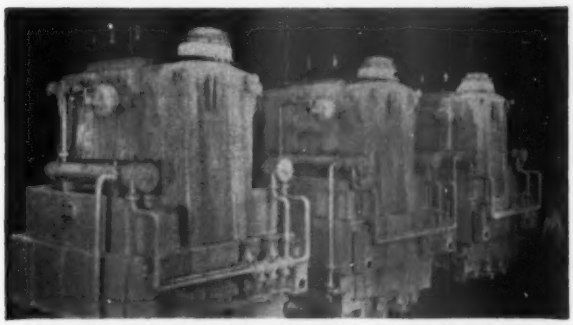
● Wing flap supports for Consolidated Vultee's Model 340 airliners are stronger, cost *less*, and are of better quality now that they are made from hot-rolled sections of U·S·S CARILLOY Steel.

Originally, these T-shaped flap tracks were machined from 2¼" x 3¼" bars of chrome-moly steel. But machining took too much time, and over 50% of the stock metal was wasted. J. C. Peacock Company of Los Angeles and Convair engineers decided to shorten machining time and reduce scrap losses by fabricating directly from rolled sections. Hot-rolled T-sections of CARILLOY 4140 steel were selected to meet the exacting quality requirements. They proved to be *stronger* than the flap tracks formerly used, they required 4 hours less machining time, and they reduced scrap losses 60%. The finished tracks now cost only *one-fourth* as much as they did before.

U·S·S Stainless Steel Saves 40% on Screen Costs

● In a series of service tests on the bottom decks of refuse shakers at the Hudson Coal Company, Scranton, Pa., U·S·S Stainless Steel proved conclusively that it costs less than other screen materials because of its longer service performance.

Hudson tested 14 and 16 gage 36" x 72" screens with 3/32" round holes under the most severe service conditions—involving corrosion by acidulous water and abrasion by sand mixed with the refuse. The *best* record for a material other than Stainless Steel was 3647 hours. But Stainless Steel was in service 8291 hours, more than twice as long. Although the Stainless Steel cost $44.96 per screen, and the other material cost only $32.79 per screen, the test proved that the use of Stainless Steel afforded a saving in hourly screen cost of 40%. What's more, the U·S·S 18-8 screens were still serviceable at the end of the test.



Nine tons of weight saved, shipping costs reduced $642, yet steel supply goes 33% further when transformer shells are constructed with U·S·S COR-TEN steel

● By using ¾" U·S·S COR-TEN steel plates in place of ½" mild steel in the shells of three 29,000 Kva transformers, the Pennsylvania Transformer Company, Canonsburg, Pa., reduced weight per unit from 24,000 lbs. to 18,000 lbs. In addition to conserving steel and making the lighter transformers easier to install, the shipping costs to their destination at Gates, Oregon were cut by $214 per unit.

With COR-TEN steel, the Pennsylvania Transformer engineers were able to reduce weight to such a degree that the extra cost for COR-TEN was more than offset by (1) less tons used, and (2) freight reduction on the finished product.

If you want to cut costs for your company

—do what these manufacturers have done. Bring your steel problems to us.

Whether you are faced with the necessity of switching over from a steel you normally buy to an alternate grade containing less critical materials, or just want to get better performance out of the steels you are using, we believe we can help you.

The metallurgists and steel engineers we have assigned to this important job of helping you use steel more *effectively*, bring to your problems wide experience and a thorough knowledge not only of steel but the very latest ideas and time-saving techniques in the working and treatment of steel. To obtain their help call the nearest U·S·S District Sales Office or write to United States Steel, Room 2813-S, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS

Only STEEL can do so many jobs so well

S-1009

UNITED STATES STEEL CORPORATION, PITTSBURGH · AMERICAN STEEL & WIRE DIVISION, CLEVELAND · COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH · TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. · UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

UNITED STATES STEEL

VIKING

Corner Lavatory

Another example of

AMERICAN-Standard

Leadership

New AMERICAN-Standard product helps save space in small rooms

● This new fixture is a genuine vitreous china lavatory designed especially for smaller-than-average washrooms . . . to make them roomier, neater, more inviting.

Dimensionally the Viking is small. But don't let its compact size fool you. For this little fixture actually offers you the convenience of a conventional lavatory, plus a full measure of famous American-Standard quality.

The Viking's trim, modern lines and gleaming beauty will add sparkle to any room. Its compactness makes it ideal for small public rest rooms and individual offices. It has the glamor needed for residential powder rooms and that small second bathroom. And it is just right for the space-saving bathrooms of hotels and tourist courts.

The addition of this new corner lavatory to an already long line of top quality plumbing products is another example of how American-Standard serves the needs of all who plan, build, buy, sell, live in or work in today's modern buildings. We are confident they will like the Viking.

AMERICAN-Standard

American Radiator & Standard Sanitary Corporation, Dept. BU-53, Pittsburgh 30, Pa.

Serving home and industry

AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS

BUSINESS OUTLOOK

Employment figures add to the available evidence that the production peak may have been reached in March.

Manufacturing employment is running higher this year than ever before—excepting for the World War II peak. Yet factory jobs dipped 80-odd thousand in April from the March top of 17,136,000.

It should be noted, however, that **most of the drop was in textiles and apparel**—not an illogical development after Easter.

Thus the April figures do not definitely signal a turn. They seem significant only in the light of other signs pointing the same way.

•

Purchasing agents aren't sure that March set the production high; they feel that June may top it.

Yet the May report of their national association notes that payrolls have stopped growing. They don't talk of letting workers go (some areas still are short of skills). But overtime is shrinking.

•

One possibility, of course, is that factories can turn out more stuff without hiring any more workers.

Manufacturers, the country over, have added a million workers since August. Many of those undoubtedly were green hands. As they are trained and their skills increase, man-hour output should improve.

Better availability of materials can contribute to this gain.

•

Total nonfarm employment—notwithstanding the April dip in manufacturing jobs—is marching to new records.

The Bureau of Labor Statistics' latest estimate is 48¾-million. That was up 150,000 in a month and 1,335,000 over a year ago.

Gains from now to midsummer are, needless to say, the natural thing as weather favors outdoor work. The only question is whether this year's rise will be up to normal after the unusual gains of recent months.

•

Job opportunities in the building trades so far this year have made a good, if not gaudy, showing.

Total employment in contract construction in April topped 2.4-million, approximately matching a year earlier. And the January-April gain was almost exactly 100,000, also duplicating 1952's rise.

•

Economy note: **The number of jobs in the federal government continues to decline.** The drop has been nearly 50,000 since the new Administration took over, and the payroll now is 64,000 below a year ago.

Gains at state and local levels, though, cancel out much of this.

•

Cash needs of business show no signs of tapering off. The dip in bank borrowings has been much less than a year ago and hardly even parallels booming 1948.

Thus the pinch over the June 15 tax date will be just as tight as the Federal Reserve chooses to permit.

Last year, business went to the banks for about $300-million in March

and again in June. This year in March, with the higher schedule of Mills plan tax payments, the jump in loans was $700-million.

Perhaps June needs won't be so big as in March. But **they will boost loans to a new high**—with interest already going up almost daily.

•

Consumers aren't doing anything to ease the demand for money.

Retail sales have been above $14-billion every month since October (after allowance for seasonal variations).

Auto sales, with the biggest percentage gains, sop up credit.

•

Public buying patterns beyond midyear are, of course, basic to the whole economy—and many observers have serious qualms.

It's easy to say that buying won't change unless payrolls do. But **tight credit alone might start to cut consumer spending**—and this, as it reduced demand for goods, would shrink employment and payrolls.

The mere fact that retail sales have been so high for eight months may be ominous. It suggests that needs are well satisfied.

•

Perhaps nobody will be too worried about a slump until and unless the automobile business begins to fall off.

But, if you are inclined to be nervous, you may be able to detect the first symptoms of weakness in the market for new cars. Output of three "independents" has shown signs of weakening the last six weeks.

In part, this may mean that the Big Three are snatching more of the market. Then, again, it may be symptomatic of something deeper.

•

Some few types of consumer goods already have been produced in excess of public demand.

You saw cutbacks in TV and refrigerators. Now the leading makers of **farm equipment** feel market weakness in spots (just as their smaller competitors did some time ago). And **rugs and carpets** seem to be running into marketing problems once again.

Difficulty was to be expected in farm areas, even though the farmer still is well heeled, comparatively. His income is off, boom or no boom.

•

You could, if you wanted, put your finger on **machine tools** as a telltale of approaching trouble in heavy industry.

But the drop in April bookings to $82-million from $95-million in March hardly spells a famine here. New orders still are running close to three times the 1946-47 average rate.

They look skinny only in relation to today's very high output.

The production rate is four times the 1946-47 average—and still climbing. Machine tool builders' order backlog equals about eight months' output.

•

Air conditioners should get off to a good start this summer.

The weather east of the Mississippi seems to be turning in their favor after the wet spring. The government's long-range forecast is for warmer than usual through the middle of June, at least.

The business is competitive, though, if big-city newspaper ads are typical.

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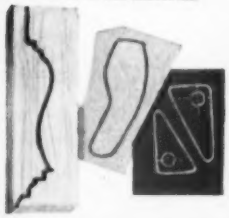
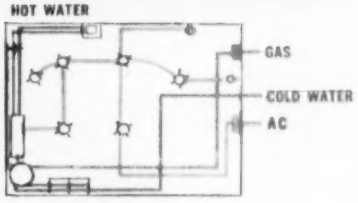
Prismacolor makes it L AR

MAPS
Any map can tell your story in vivid colors, quickly applied.

PRODUCT DESIGN and LAYOUTS
52 colors blend perfectly to thousands of shades.

PATTERN MARKING
Colored lines contrast sharply with color of the material.



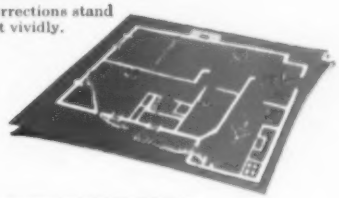


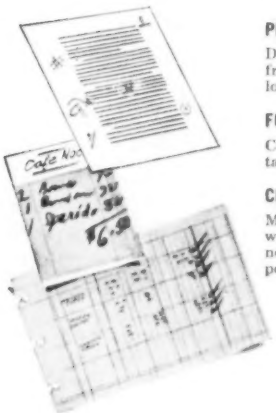
DRAWINGS
Color makes complex plans easy to interpret.

GRAPHS
Color tells the facts at a glance.

PARTS INSPECTION
"X" marks the defect, green identifies the inspector.

BLUEPRINTS
Corrections stand out vividly.





PROOF READING
Dense marks from smooth, long-lasting points.

FOOD CHECKS
Color makes them tamper-proof.

CHECKING RECORDS
Marks are waterproof, non-smearing, permanent.

EVERY DEPARTMENT of your business can use Prismacolor pencils in special ways that promote efficiency as well as for ordinary writing and checking. Your stationer or art materials dealer can supply 52 brilliant colors and sets containing 12, 24, 36 and 48 different colors for every possible need.

WRITE for free sample in any color you wish to try. Its quality will amaze you.

EAGLE® PRISMACOLOR

EAGLE PENCIL COMPANY
New York • London • Toronto

52 Brilliant Colors

901 Indigo Blue	909 Grass Green	918 Orange	927 Light Flesh	936 Dark Grey	945 Sienna Brown
902 Ultramarine	910 Emerald Green	919 Sky Blue	928 Blush	937 Light Grey	946 Dark Brown
903 True Blue	911 Olive Green	920 Light Green	929 Pink	938 White	947 Burnt Umber
904 Light Blue	912 Apple Green	921 Vermilion	930 Magenta	939 Flesh	948 Sepia
905 Aquamarine	913 Green Bice	922 Scarlet Red	931 Purple	940 Sand	949 Silver
906 Copenhagen Blue	914 Cream	923 Scarlet Lake	932 Violet	941 Raw Umber	950 Gold
907 Peacock Green	915 Lemon Yellow	924 Crimson Red	933 Blue Violet	942 Yellow Ochre	951 True Grey
908 Dark Green	916 Canary Yellow	925 Crimson Lake	934 Lavender	943 Burnt Ochre	956 Light Violet
	917 Yellow Orange	926 Carmine Red	935 Black	944 Terra Cotta	

EAGLE TURQUOISE PRISMACOLOR BLUE LAGG

More work for "green thumbs"

You and all the rest of us add up to a big job for the farmer—he must now feed twice as many of us as he did 40 years ago

RECENT NATIONAL CENSUS figures show that today each individual farmer must produce enough to feed nearly twice as many people as he d'd forty years ago. The Government forecasts also that he will soon have to feed more than three times as many.

HOW IS IT POSSIBLE? Because remarkable gains in scientific farming and mechanization have greatly increased the output of the available croplands. The work of science in helping fight the ravages of fungi, bacteria, weeds, and insects is typical.

CHEMISTRY HELPS—Crops such as apples and potatoes are now protected by *fungicides*, special chemicals that combat destructive fungi and bacteria. Other chemicals, called *herbicides*, save labor and increase our food supply by killing weeds. Powerful *insecticidal sprays and dusts* are sure death to insects.

UCC AND THE FARMER—The people of Union Carbide work closely with the farmer in providing new and better ways of increasing our food supply. UCC develops and produces fungicides, herbicides, and insecticides, as well as gases for processing and preserving, plastics for packaging, and alloy metals for the stainless steel so important in the preparation and distribution of food.

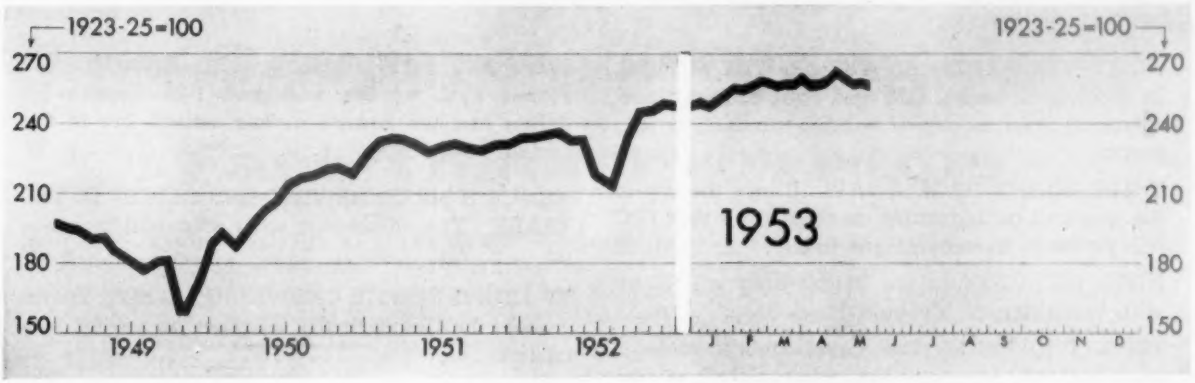
FREE: *Learn more about the interesting things you use every day. Write for the 1953 edition of "Products and Processes" which tells how science and industry use the* ALLOYS, CARBONS, CHEMICALS, GASES, *and* PLASTICS *made by Union Carbide. Ask for booklet H.*

UNION CARBIDE
AND CARBON CORPORATION
30 EAST 42ND STREET UCC NEW YORK 17, N. Y.

UCC's Trade-marked Products of Alloys, Carbons, Chemicals, Gases, and Plastics include

SYNTHETIC ORGANIC CHEMICALS • EVEREADY Flashlights and Batteries • NATIONAL Carbons • ACHESON Electrodes • PYROFAX Gas
ELECTROMET Alloys and Metals • HAYNES STELLITE Alloys • PREST-O-LITE Acetylene
LINDE Oxygen • DYNEL Textile Fibers • BAKELITE, KRENE, and VINYLITE Plastics • PRESTONE and TREK Anti-Freezes

FIGURES OF THE WEEK



Business Week Index (above) . . . . .

	§ Latest Week	Preceding Week	Month Ago	Year Ago	1948 Average
Business Week Index (above)	*258.0	†259.7	264.1	236.9	173.1
PRODUCTION					
Steel ingot production (thousands of tons)	2,268	†2,250	2,262	2,091	1,281
Production of automobiles and trucks	162,110	†177,305	194,610	127,759	62,880
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands)	$45,158	$48,567	$47,134	$47,727	$17,083
Electric power output (millions of kilowatt-hours)	8,013	7,959	8,016	7,146	4,238
Crude oil and condensate production (daily av., thousands of bbls.)	6,360	6,359	6,278	N.A.	4,751
Bituminous coal production (daily average, thousands of tons)	1,521	†1,475	1,450	1,386	1,745
TRADE					
Carloadings: manufactures, misc., and l.c.l. (daily av., thousands of cars)	76	75	76	74	82
Carloadings: all other (daily av., thousands of cars)	54	52	49	52	53
Department store sales (change from same week of preceding year)	+7%	+9%	+8%	None	+30%
Business failures (Dun and Bradstreet, number)	156	198	159	145	217
PRICES					
Spot commodities, daily index (Moody's Dec. 31, 1931 = 100)	417.0	417.8	420.3	433.8	311.9
Industrial raw materials, daily index (U. S. BLS, 1947-49 = 100)	87.5	86.9	86.7	101.3	††73.2
Foodstuffs, daily index (U. S. BLS, 1947-49 = 100)	89.4	89.7	89.1	94.9	††75.4
Finished steel, index (U. S. BLS, 1947-49 = 100)	135.8	†133.7	130.8	124.9	††76.4
Scrap steel composite (Iron Age, ton)	$38.67	$38.17	$39.33	**$42.00	$20.27
Copper (electrolytic, Connecticut Valley, E&MJ, lb.)	29.985¢	30.000¢	29.980¢	24.500¢	14.045¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.)	$2.32	$2.38	$2.38	$2.45	$1.97
Cotton, daily price (middling, ten designated markets, lb.)	33.40¢	33.61¢	33.17¢	38.70¢	30.56¢
Wool tops (Boston, lb.)	$2.12	$2.11	$2.10	$2.05	$1.51
FINANCE					
90 stocks, price index (Standard & Poor's)	197.9	197.0	193.7	189.8	135.7
Medium grade corporate bond yield (Baa issues, Moody's)	3.79%	3.78%	3.69%	3.49%	3.05%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate)	2¾–2½%	2¾–2½%	2½%	2½–2¾%	¾–1%
BANKING (Millions of dollars)					
Demand deposits adjusted, reporting member banks	53,084	53,346	53,897	52,881	††45,820
Total loans and investments, reporting member banks	76,017	75,809	76,412	74,290	††72,036
Commercial and agricultural loans, reporting member banks	22,965	23,083	23,156	20,800	††9,299
U. S. gov't guaranteed obligations held, reporting member banks	28,822	29,040	29,384	32,035	††49,879
Total federal reserve credit outstanding	25,288	25,831	25,395	23,794	23,883

MONTHLY FIGURES OF THE WEEK		Latest Month	Preceding Month	Year Ago	1948 Average
Cost of Living (U. S. BLS, 1947-49 = 100)	April	113.7	113.6	112.9	83.4
Average weekly earnings in manufacturing	April	$71.40	$71.93	$65.67	$43.82
Retail sales (seasonally adjusted, in millions)	April	$14,365	$14,413	$13,363	$8,541

* *Preliminary, week ended May 23, 1953.* † *Revised.*
** *Basing pt., less broker's fee.* †† *Estimate*

§ *Date for "Latest Week" on each series on request*
N. A. *Not available.*

in BUSINESS this WEEK...

GENERAL BUSINESS:

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PRICE PROPPING. The government's strategic stockpile will get metal the government has contracted to buy from marginal producers.....p. 27

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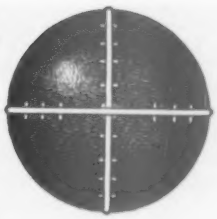

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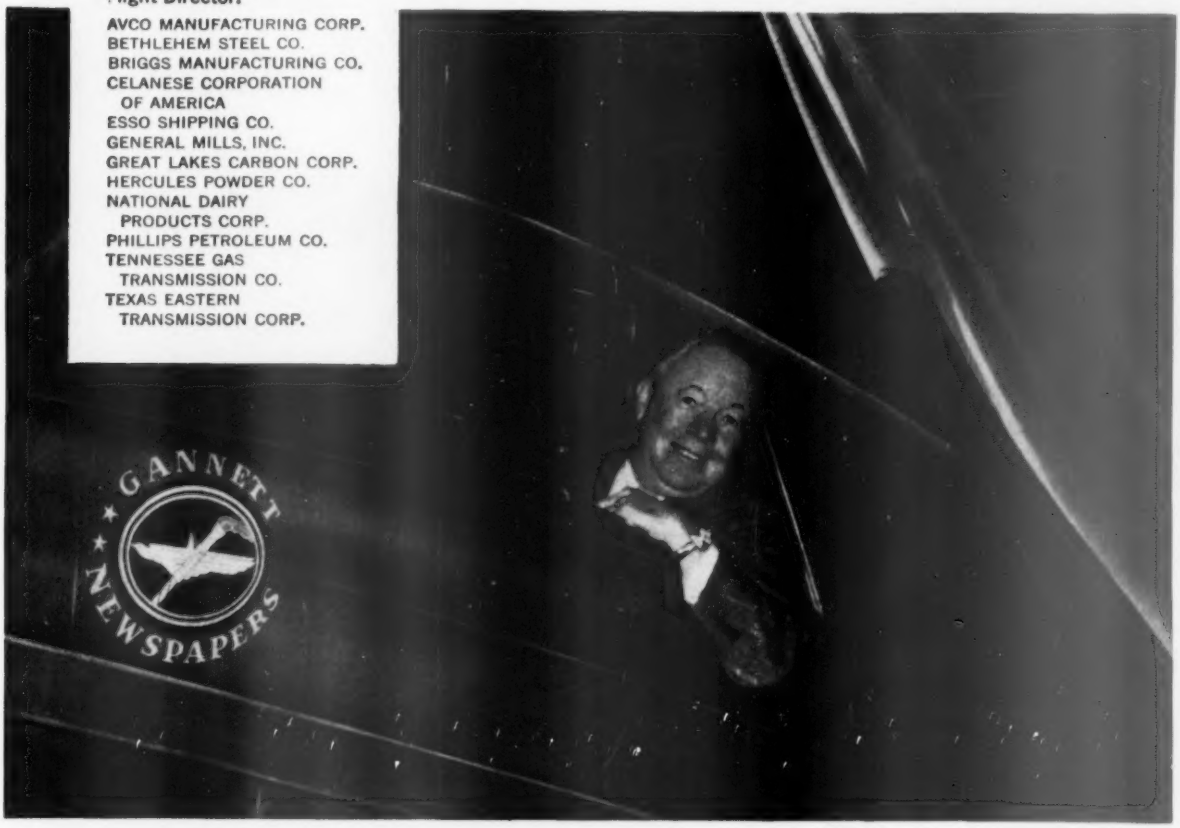

Cmdr. Russell Holderman of the Gannett Newspapers, who is celebrating his 40th year as a pilot, is one of the enthusiastic users of the Sperry Zero Reader Flight Director.

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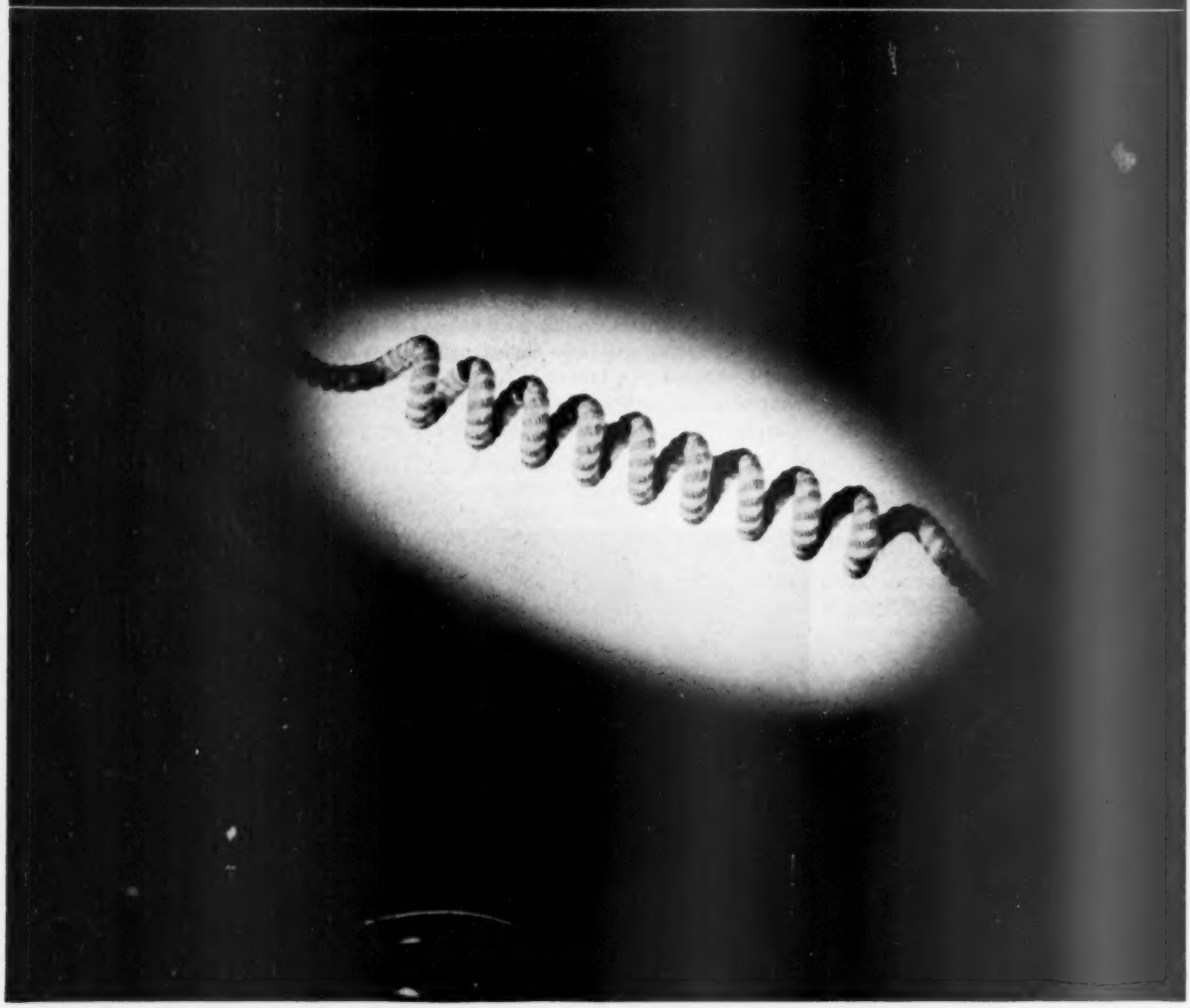

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GENERAL ELECTRIC

BUSINESS WEEK

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MAY 30, 1953

Auto Contracts: an Eye on the Future

In yielding to union, GM and Ford commit themselves to their hopes of soaring production and profits.

Why did General Motors and Ford do it?

That was the question asked this week as business digested the big news that came out of Detroit over the weekend.

Both companies gave Walter Reuther's United Auto Workers (CIO) almost everything it asked. They did it despite the fact that the UAW contracts still have two years to run, and despite a policy of not altering existing agreements.

• **The Terms**—There was no single, simple answer to the question: Why? Unquestionably, for the union the contract concessions were a thumping big prize; under the constraints of contracts, it had no legal right to expect anything. UAW got:

From GM an agreement to put 19¢ of its present 24¢-an-hour cost-of-living allowance into base wage rate, making it a permanent of the wage structure. GM also added 1¢ to UAW's annual-improvement-factor raise, making it 5¢. It gave 10¢-an-hour raises to about 40,000 skilled craftsmen. And it accepted a wage escalator formula on a basis UAW considers particularly favorable: Pay will go up 1¢ for every 0.6-point increase in the Bureau of Labor Statistics' revised cost-of-living index; it will drop 1¢ for every 0.68-point decline in the index—but not more than a total of 5¢ from present rates.

From Ford, almost a word-for-word parallel to GM's concessions, with two exceptions. Ford die sinkers and pattern makers will get 20¢ raises while other craftsmen are getting the 10¢ specified in the GM agreement. And Ford agreed to raise its top pension from $125 a month to $137.50 (including federal social security) for employees retiring at 65 or older with 30 years of service. This new plan is the most generous among major companies.

What do GM and Ford get out of these settlement terms? GM's statement accompanying the announcement of its new agreement said only that it should contribute toward "stabilizing relations among our employees for the remaining two years of the contract."

There is no doubt that GM and Ford, with business booming, want a large-mindedness from UAW in dealing with routine problems, that, when there is bad feeling, can occasion slowdowns and production stoppages—such as those that have plagued both companies recently and which ended quickly when they signed their new agreements with UAW.

• **Key Year**—Beyond that, there is considerable talk in Detroit about a record year for GM profits. The new agreement should effectively stop sniping from labor and liberal forces when profit figures must be made public. The corporation cannot be stigmatized as too big and too rich to be concerned about its employees' welfare.

Further, this agreement represents the first effort of Harlow Curtice in top level GM labor relations. Since the last negotiations with UAW, Curtice has followed Charles E. Wilson into the GM presidency, when Wilson became Secretary of Defense. Both GM and Wilson had learned, after years of bitter feuding with the union, that "labor statesmanship" pays both real and public relations dividends.

It would be only natural that Curtice, about to be measured against Wilson in this vital area of executive responsibility, should want to make sure he did not suffer by comparison.

• **Tagging Along**—Meanwhile, with GM and Ford signed up, the rest of the auto industry prepared for renegotiating and rewriting its contracts, more or less after the GM fashion. Individually, most would have been willing to argue more strenuously than GM or Ford, and to run a risk of being shut down rather than capitulate to UAW. But they hardly have a choice now.

Five-year agreements are, to all practical purposes, dead.

UAW has carried a major point: Long-range contracts should be "living documents," susceptible to changes if unforeseen circumstances warrant them.

When this doctrine was first advanced, GM and the rest of the industry wriggled and writhed. Nobody in management had any appetite for opening agreements that were still presumably locked up for two years more. But a break that coincided with the "living documents" thesis—the decision of BLS to abandon its "old" c-of-l index and substitute a revised one—gave UAW a wedge in the door leading to a reopening. A conversion formula must be negotiated. UAW told the industry: Bargain on contract changes or no agreement can be reached on a conversion—and, no conversion, no contract.

• **Further Cut**—Realistic GM went into bargaining and made offers which the union rejected two months ago. Last week, impelled by the impending appearance of the "old" index for April—a figure that would cut pay—UAW was ready to bargain seriously. So was GM, if it could get assurances of continuing labor peace and an open possibility of another long-term contract in 1955. The new terms were reached after three days of near-steady bargaining.

• **Maneuvers**—However, the agreement was not reached without shows of strength on both sides. GM made its displeasure clear early last week during an unauthorized wildcat stoppage at its Detroit transmission plant. It sent wires to Reuther warning of court action. The stoppage ended quickly.

UAW's moves were more subtle, though equally understandable. With a straight face the union international board authorized walkouts at two Central Foundry Division plants at Defiance, Ohio, and Danville, Ill., over rate classifications—one of the few issues which can be a basis for strike action under present contracts. The two plants are key operations in the GM production cycle; within a week manufacturing operations might be affected.

These walkouts began on Monday. By Wednesday, when national negotiations were progressing smoothly in Detroit, workers returned to plants.

• **And at Ford**—UAW exerted the same kind of pressure on Ford. Workers walked out at the company's Canton (Ohio) and Monroe (Mich.) forges in mid-April, over job classifications. When serious bargaining started, Ford's River Rouge plant was shut down tightly. The forge disputes ended simultaneously with Ford's agreement on new contract terms.

The GM settlement left out one thing: pension revisions. UAW didn't push this issue at GM, leaving it for Ford.

There Ought to Be a Law

That's the cry of the gas and oil industries as court rules that FPC has the power to fix natural gas rates. They want Congress to exempt them.

The shadow of federal regulation lay heavy on the independent gas producers this week. Its lengthening shade had the whole oil industry shivering, too.

What had happened was a ruling by the U.S. Court of Appeals for the District of Columbia that the Federal Power Commission has the right to regulate the prices charged by producers and gatherers of natural gas who sell in interstate commerce. FPC didn't seek the right; the Circuit Court ruling actually reversed a commission finding that the Natural Gas Act of 1938 did not give it authority to set prices.

• **No Choice**—The case in question involved the Phillips Petroleum Co. of Bartlesville, Okla., a major oil company and one of the largest natural gas producers. But more than 2,000 other companies fall in the same category.

If last week's decision is upheld by the Supreme Court, FPC will apparently have no choice but to set rates for all of them. The list of major oil companies that also sell gas includes such giants as Gulf, Humble, Standard Oil of California, Standard of Indiana, Texas Co., and Socony-Vacuum.

These companies all take a dim enough view of FPC regulation of gas rates. But what really frightens them is the thought that such regulation would put both feet of the commission inside the oil industry's door. In 1950, about a third of all natural gas produced came from oil wells; the industry claims that its extraction is inseparable from oil production.

In the long run, the oil men wail, FPC regulation would mean a cutting of profits to a level where companies would be very chary of further exploration and development. They add that gas producers are already considering keeping their output in the state of origin, thus cluding the regulation, instead of piping it to major cities that now use it.

• **The Conflict**—These dire forebodings have not deterred the oil and gas industries from preparing to fight back. The major battle may be fought even before the Phillips Petroleum case gets to the Supreme Court.

What the industry wants is for Congress to pass a law specifically exempting the gas producers and gatherers from federal regulation. The then Sen. Robert S. Kerr of Oklahoma, an oil man, pushed such a bill through Congress only to have it vetoed by President Truman in 1951. Steps are already under way to introduce a new bill, which the industry hopes would find a more favorable White House climate under the present Administration.

The present case arose when FPC ruled that Phillips was not a natural gas company within the meaning of the 1938 law, and was therefore exempt from commission rate making. This ruling was appealed by the state of Wisconsin, where some of the gas is marketed, the cities of Detroit, Kansas City, and Milwaukee, and by Wayne County, Mich. By a two-to-one margin the court upheld the appeal.

• **Opinions**—Judge Henry W. Edgerton, for the majority, said that although the production or gathering of natural gas is exempted from regulation, there is no exemption for sales made after the producing and gathering have been completed.

In dissent, Judge Bennett Champ Clark said, "nothing could be more absurd than to say that production and gathering are exempt, but that the final sale by the producer and gatherer is subject to the act.

Harvester Steps Closer To Its Long-Term Goal

International Harvester Co. has long hankered to get into the industrial earth-moving business with a full line of equipment. But it lacked the implements to go with its heavy trucks and tractors.

Last fall it took a short step in the desired direction when it acquired Frank G. Hough Co. (BW—Nov.1'52, p33). It followed that move this week by making a deal with Bucyrus-Erie Co. Under the new arrangement, Bucyrus-Erie's line of industrial tractor equipment—chiefly bulldozers and scrapers—will be sold, distributed, serviced, and eventually manufactured, by Harvester. This will put Harvester in a position to become a major supplier to the construction industry.

• **Terms**—Bucyrus-Erie, of south Milwaukee, Wis., has long been a maker of allied equipment for Harvester's industrial tractors, and has sold directly to Harvester distributors. Starting Jan. 1, 1954, Harvester will buy directly from B-E up to the limit of that company's present tractor equipment capacity. Harvester will then resell to its own distributors.

The deal goes one step further. Over a period of time, and without interrupting continuity of production, B-E will discontinue manufacturing this equipment, and Harvester will take up production in its own plants.

The deal was reportedly initiated by B-E, which needs added facilities for making its products other than tractor equipment—heavy construction equipment like power shovels, cranes, dredges.

Rug Circus Trims Inventory

Madison Square Garden crowds have seen everything from trained seals to prize fights. Last week, the big Manhattan arena had a new form of entertainment to offer: a rug sale, put on by Kaufman Carpet Co. The idea was to cut the company's $1.5-million inventory. It worked, Kaufman officials report. Customers took away $1-million worth of rugs—everything from Persians to 100% cotton carpets. Salesmen on roller skates, a camel, and free frankfurters promoted the circus atmosphere.

Steel Capacity . . .

. . . in the Detroit area will climb with expansion of McLouth Steel Corp. GM will help finance it.

Steel-producing capacity on the doorstep of the auto industry is scheduled to jump a full-size notch. McLouth Steel Corp., a small independent, plans a $100-million expansion—an amount about double its present assets. That will put it into the ranks of substantial operators.

In the past, only money, presumably, has stood in the way of steel mill growth around Detroit, the largest consumer of the metal. Great Lakes Steel Corp., a division of National Steel Corp., has been the only really big producer in the area. Ford Motor Co.'s plant was the one other integrated mill of size; Rotary Electric Steel Co. ran a quiet third.

Now McLouth capacity will increase materially. On the program is a new ore dock, a blast furnace, a melt shop extension that will have two new electric furnaces, Bessemer converters, 10 new soaking pits, a building for a cold reducing mill and a continuous hot strip mill.

• **GM's Interest**—An intriguing aspect of the McLouth move is that General Motors Corp. will have a $25-million stake in it. GM agreed to lend that amount to McLouth, and will get part of it back gradually in finished steel. This will be GM's fourth steel sally (BW—May19'51,p26).

Why would GM invest $25-million in steel at a time when many think the big bulge in demand is about to taper off? The answer is not too hard to find.

First, GM and others in the industry figure auto production is on a new plateau, far higher than prewar. That alone would require more tonnages of rolled sheets than are conveniently available. Today—when production is admittedly abnormally above a longer term expectancy—auto companies are paying $125 a ton and more in premiums for conversion steel. GM is highly optimistic about demand in the future.

Second, the industry generally would like more steel closer to home. There is an actual cost saving, of course. Although the arbitrary price for Detroit-made steel is higher than the base prices from other points, it is still lower than the cost of tonnage delivered from other points.

Great Lakes Steel has been profiting from this arbitrary price, and is the sole integrated sheet producer selling to all the industry (Ford keeps virtually its entire output for itself). It is no secret that the auto companies would welcome Detroit competition with Great Lakes, just as they welcome competition on anything else they buy. McLouth Steel has been partly customer financed on past growth moves; reports have been that GM was an active factor then.

• **Financing**—Donald B. McLouth, president of the company, is popular around Detroit and has a large circle of friends. Perhaps that helps explain why he can raise $100-million for his expansion program somewhat more easily than would-be competitors.

His program calls for getting most of the money, $56-million, with a series of 4¼% first-mortgage sinking fund bonds due at the end of 1972, part of which GM will take. There will also be $14-million in 3¼% secured bank notes due at the end of 1958; $8-million in 5¼% income notes, convertible into preferred, due at the end of 1983; and a $27-million issue of 5¼% cumulative preferred. Part of this money will retire present bank loans of $12.5-million.

• **Other Irons**—GM made its first move into steel late in 1950 with Jones & Laughlin Steel Corp. GM loaned J&L $28-million to expand its Otis Works at Cleveland—a mill which makes the wide sheets that are so useful to the auto industry.

Once its feet were wet, General Motors made another deal in the spring of 1951, lending $40-million to Republic Steel Corp. to expand its Cleveland facilities (BW—May19'51,p26). General Motors got 3% for its money, and also got a commitment for a share of the increased production at Cleveland if it wants it.

About the same time GM made a parallel deal with a Canadian company, Algoma Steel Corp., Ltd.

• **Precedent**—GM isn't the first automobile company to see the advantages of a tie-up with steel. Probably the virtues of such deals became apparent to Detroit after Kaiser-Frazer Corp. was formed. A newcomer, K-F was able to get all the steel it needed in a time of shortage because it had ingots from a mill it owned to trade.

Studebaker Corp., for example, bought the mill of Empire Steel Corp. for $7,450,000 back in 1947. A few years later, when the pinch for ingots loosened up, Studebaker sold the facility back—having used it advantageously for trading purposes in the meanwhile.

Hudson Motor Car Co., too, temporarily got into the steel business in the late 40s with the purchase of a hand-finishing mill in Pennsylvania. That operation was discontinued late in 1949 as steel eased. Packard Motor Car Co. and Chrysler Corp. have also made loans to steel firms.

Price Propping

The government's strategic stockpile will be used to impound metals it has to buy from marginal producers.

The government's stockpile of strategic metals is about to become a sort of ever-normal granary to prop up sagging metal markets.

It isn't a new role. Stockpiling was used last year to stop price slides in lead and zinc (BW—Aug.30'52,p33). But now there is another problem. It involves the marginal production that Uncle Sam has contracted to subsidize.

Instead of dumping government-backed metals output on depressed markets (which never really was contemplated), the government is going to load the tonnage onto the stockpile. A bill granting authority for this scheme is moving through Congress now. It's expected to become law July 1.

• **Commitment**—The story behind this bill goes back to the early days of the war in Korea, when the government set up the Defense Materials Procurement Agency. One of DMPA's jobs was to encourage metals production by guaranteeing producers a minimum price. If a producer has such a guarantee from DMPA, and if he can't sell on the open market at an established floor price, the government is obligated to buy his output at the floor price over a stipulated period of years.

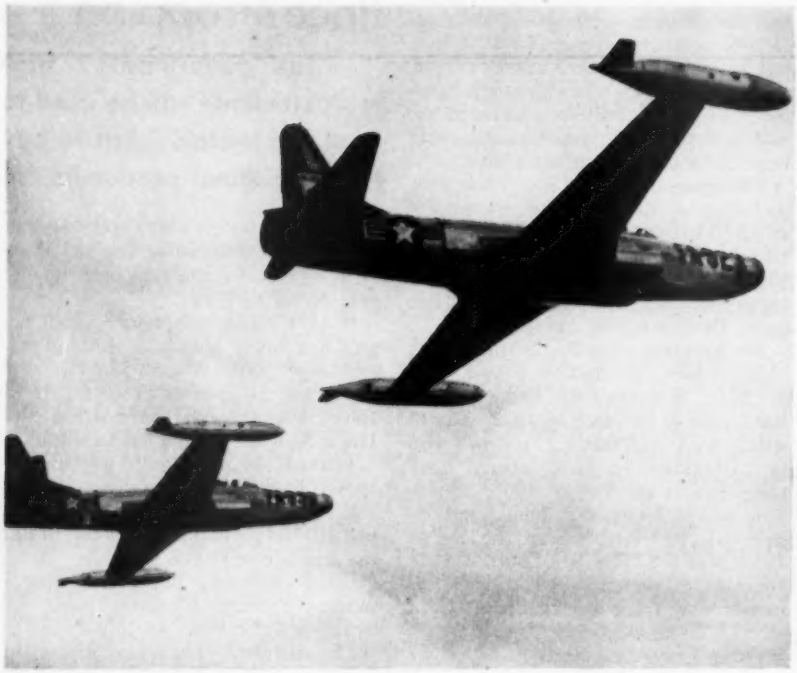
Since this scheme was first put into effect, the defense buildup has slowed down and demand for metals has fallen off. Result: Many of the floor prices have become premium prices. For instance, lead is now selling for around 13¢ a lb. The government's floor price is 17¢.

Consequently, the government is having to buy more metal than it originally expected to. DMPA guaranteed floor prices on about $4-billion worth of metals and minerals production. Washington experts figure the government may be asked to buy 20% of that.

• **Solution**—What to do with all this surplus metals? Sen. Homer E. Capehart, chairman of the Senate Banking Committee, suggested it be heaped on the stockpile.

Secretary of the Treasury George M. Humphrey disagreed. So did Harold S. Vance, president of Studebaker Corp.

But the alternative—canceling the DMPA price agreements and paying producers off for their losses—looked even worse. Humphrey and Vance backed down. Last week Capehart's proposal went through the Senate in a bill. The House is expected to pass it within a few weeks.



PLANES like the Lockheed F-94 Starfire—600-mph. jet fighter; and the Army's . . .

ATOMIC CANNON, are in the middle of the

Weapons Battle Gets Hot

The $5-billion slice out of next year's Air Force appropriations is causing a confusion of charges and countercharges in Washington.

The charge is that the Administration is putting dollars before national security; that Secretary of Defense Charles E. Wilson's plan to reduce the number of wings in the Air Force, yet at the same time boost combat strength, is just so much propwash.

• **How Big?**—The wrangling has made a mish-mash out of the question of just how much air power we have right now and how much we will have.

One trouble is the Air Force's use of Alice in Wonderland terms to describe itself. The principal division of the Air Force is the air wing. It breaks up into groups, squadrons, divisions and, unfortunately for statisticians, it's seldom that any two wings are composed of the same number of planes and men. A complicating fact is that some are flying wings, while others are nonflying units—ground support, base personnel, and the like.

Wing sizes range from 15 planes for a heavy bomber wing to 75 planes for a fighter outfit. Transport and support wings can vary all over the lot.

To further confuse the issue, the Air Force has never announced how many of the 143 wings planned by former President Truman's Administration would be tactical (fighter) or strategic (bomber) wings.

• **Try Again**—You can't gauge air power by dollars either. Under the Truman budget an appropriation of $8.9-billion would have bought 5,500 planes for the Air Force and Navy. Under the revised Wilson budget, aircraft procurement funds of about $5-billion should buy about 3,100 planes, using the same yardstick. But chances are that the figure could be off by 500 planes.

That's because the types of planes the military will buy has not been decided yet. A single bomber may cost as much as 30 or more smaller planes. For example, the B-52 jet superbomber is figured to cost around $20-million—as against about $400,000 for an F-86 Sabrejet.

• **On Hand**—So the best measure of present and future strength is the number of airplanes on hand or in production.

Prior to the outbreak of Korea, the Air Force had about 48 wings with 17,000 airplanes. The Air Force was then building to an authorized strength of 70 wings. But rather than activate new wings with old equipment, Air Force brass was striving to equip forces in being with the latest types of planes. After Korea, Congress authorized a maximum strength of 90 wings, which was again upped to 143 wings last year.

By next month the Air Force will have 106 wings in operation with an inventory of about 21,000 planes. Seventy-four of these wings are equipped with the latest planes.

• **Loss and Gain**—Since the outbreak of war in Korea, we have lost about 3,000 planes from all types of combat. At one time, inventories got so slow that virtually all of the F-86s in service were along the Yalu River.

But the aircraft industry is now producing at a rate of 14,000 planes a year—enough to compensate for all the losses and replace obsolete aircraft.

The rate of buildup and modernization has been good, but according to the air generals we were just getting started. Appropriations for fiscal 1954 would have just pushed us over the hump.

• **The Cut**—Now, understandably, the airmen and the air power advocates in Congress are hopping mad over the size of the Air Force budget reduction. It came to just over $5-billion, made up the bulk of all appropriation cuts in the military.

But the size of the cuts shouldn't have surprised even the most junior officer. Both the Army and the Navy have largely completed their mobilization programs, and the Air Force remained as the only big source of funds available for budget economies this year.

Besides, Wilson felt that the more than $40-billion backlog of Air Force funds would be enough to tide over the aircraft industry while the Defense

fight as Washington's . . .

and Heavy

Dept. took a second look at air power plans. That's why the Defense Secretary—with the approval of the National Security Council—trimmed the Air Force plans to an expansion of about five wings a year through 1956, instead of the 10 per year programmed by former President Truman.

• **More for Less**—Last week Wilson told Congressional committees that while he was reducing the interim goal of the Air Force from 143 to 120 wings, the end result in 1956 will be an air force with 30% more combat strength—even though it will have less men and less wings than planned.

Wilson arrives at this conclusion by juggling some statistics. He will cut back a number of military air transport squadrons, reconnaissance groups, troop-carrying wings, and liaison squadrons. In addition, a number of nonflying support units will be eliminated. When you couple these reductions with the lopping off of 23 planned wings, you come up with a smaller force that has—proportionately—a larger concentration of strictly combat units.

It's like getting more horsepower per pound in your car by stripping it down to engine, wheels, and chassis. You don't increase your horsepower, but you cut the weight and thus get more power per pound.

• **Arguments**—Wilson reasons that there just wasn't enough money programmed in either of the budgets—Truman's or Eisenhower's—to buy all the planes that the Air Force wanted by the readiness dates. About the best that could be accomplished was a buildup to about 110 wings by the end of this calendar year and a further gradual climb to about 120 wings by mid-1956. That will mean about 26,000 planes.

According to Wilson's budget advisers and the Security Council, there is no need for the Air Force to muster the additional 20 to 30 wings by any readiness date because the equipment won't be ready anyway. And there is growing opinion in the Pentagon that it might well be better to wait for some promising planes coming along instead of buying types that would be made obsolete within the next five years.

Airmen deny that the strength goals are sufficient. They claim that 143 wings is the minimum safety level, that it would be better to have partially equipped units in being, in case war comes, than none at all.

• **To Congress**—Air Force generals feel that Wilson and Deputy Secretary Roger M. Kyes are too Army- and Navy-minded. They point to the Army budget, which got $1.5-billion more than Truman had asked for; and the Navy budget, which got trimmed only $1.7-billion.

So the airmen are taking their complaints to Congress, where they have found support in the past against White House opposition. The Air Force is taking a long chance in making an end run around Wilson and the White House. But it hopes to get at least part of its $5-billion restored—even at the expense of the Army or Navy.

Sizing Up Army's New Cannon

The roar of the Army's atomic cannon in the Nevada desert last Monday will have repercussions in Washington military and political circles for months to come.

In fact, the hubbub in the nation's capital was building up even before the first atomic artillery shell was fired. Representatives of the other services, particularly the Air Force, were privately criticizing both the 280-mm cannon and its use of fissionable (bomb) materials as wasteful. This view quickly spread among a number of congressmen, who promised to fight further expenditures by the Army for its cherished new weapon.

Word is out that the Army plans to build many more atomic cannon—as many as 100, according to the wildest reports. The row over "wastefulness" of atomic artillery, still largely under the surface, promises soon to break into the open.

• **Quarrel**—Here are the issues of the budding debate:

The Army, which has been working on the cannon for years, has always defended it on these grounds: Weather, enemy interceptors, many other factors can stop delivery of an atomic bomb by airplane. Nothing can stop an atomic artillery shell once it is fired. Further, though it has a range of only 20 mi., the cannon (technically a rifle) is far more accurate than a bomb dropped by aircraft. This is of vital importance in tactical operations, where our own lines may be only a few yards from an enemy's.

An atomic cannonading, the Army believes, would be particularly effective in effecting a breakthrough against a strongly entrenched enemy—in the kind of fortifications our troops now face in Korea, for example.

• **Dissent**—Critics of the cannon scoff at these arguments. Its use against tactical targets almost necessarily would be wasteful, they charge. Damage to scattered fortifications would be severe, but not nearly so worth-while as a well-placed bomb on a communications center or a munition plant.

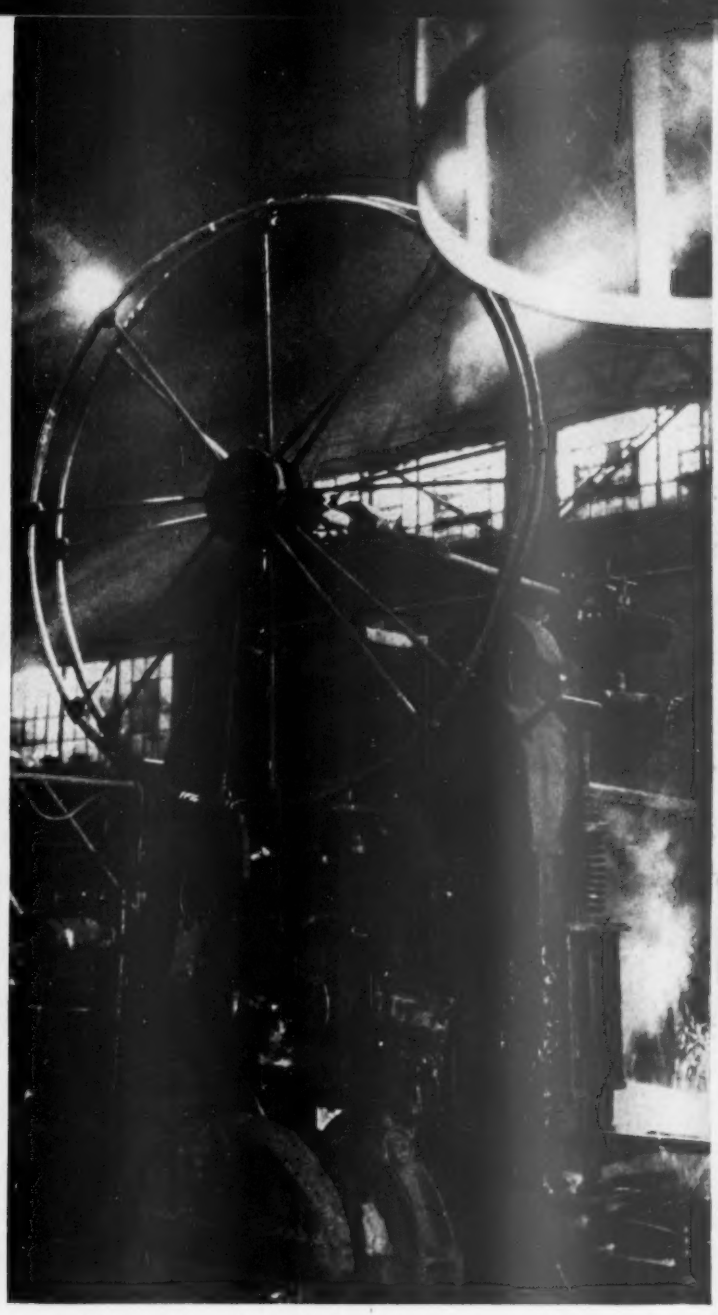
The vaunted "mobility" of the cannon also is scorned. The gun is too heavy to travel over most bridges, even some roads. Then, too, you probably wouldn't keep atomic artillery shells within 20 mi. of the front lines, subject to raids by enemy aircraft or tanks. That would probably mean shipping them to the front by air. Then a spotter airplane probably would be used to locate the target. So why not do the whole job by air?

Cost of development of the cannon is estimated as high as $7-million. Shells will be staggeringly expensive, too. This makes employment of the atomic cannon against even the juiciest tactical target of doubtful value, the critics charge.

• **Interim Weapon**—More or less detached observers view the cannon, which can fire both orthodox and atomic shells, as a valuable interim—between standard artillery and guided weapon missiles, which undoubtedly will be the artillery of the future. The Army shell's atomic warhead is a natural for adaptation to guided missile weapons.

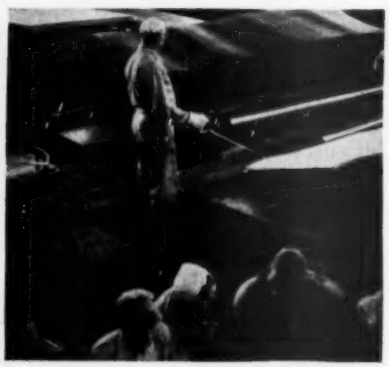
In addition, the charge of "wastefulness" aimed at cannon firing of fissionable materials isn't likely to stand up too well. The Atomic Energy Commission played the major role in developing the atomic shell. It would hardly have done so without asking for more facilities to produce uranium and plutonium, if the cannon posed a serious threat to existing and prospective supplies.

NEW Automatic controls feature the glassed-in pulpit of the finishing train in Armco's new continuous mill.



OLD Huge hand-screwdown wheels controlled the roughing train of the original Ashland mill, first to roll wide strip continuously.

NEW Sheet emerges in long coils.



OLD Sheets are limited in length.

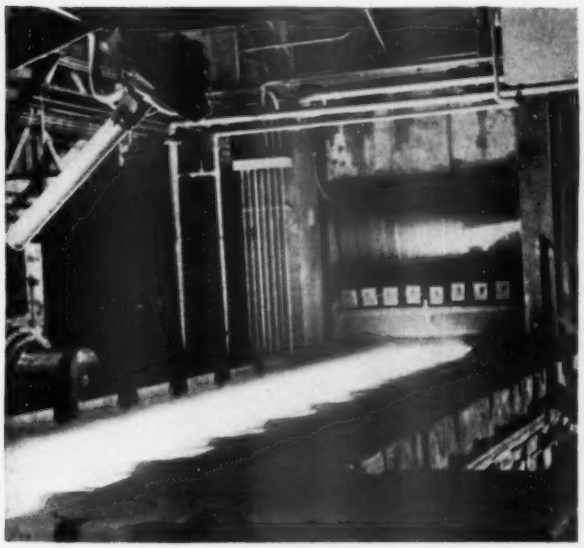
Armco's Mills:

Last week they dedicated Armco Steel Corp.'s glossy new continuous wide sheet mill at Ashland, Ky. Everybody said "ooh" and "ah": It wasn't the biggest or the fastest mill in the world, but it was awfully efficient, beautifully designed, embodying just about everything new in the steel business. It was, all hands agreed, something pretty wonderful.

All hands agreed—but you could catch a few old-timers glancing over their shoulders at the shabby, beat-up

NEW Dials and switches control the soaking pits.

OLD Hand wheels regulate soaking pit draft and fuel.



NEW As this new slab, at delivery end of the roughing train, moves on, it will become progressively longer.

OLD This billet waiting for the roughing train will not become much longer as it passes through the old mill.

Newest and Oldest in the Trade

1923 mill nearby that the new beauty will eventually displace. After all, the old mill had been something pretty special in its time—the first continuous wide strip mill that ever operated successfully. Which means that it put a new face on the steel business, and changed, in many ways, the lives of all Americans. It did that by pioneering the slashing of sheet steel costs, and the multiplication of its production. Which in its turn meant more and cheaper automobiles, and refrigerators and a few bushels of other things.

• **The Latest**—The old mill still has its admirers, but it's the new mill that had the christening party last week. So it's only fair to tell its story first, the story of efficiency really brought up to date.

There's the matter of capacity. The new mill actually could handle 150,000 product tons a month. Armco doesn't make enough ingot for that at Ashland. But 75,000 ingot tons the company does produce can be converted into 58,000 product tons by the new mill. The old mill, shedding scrap in great gobs by old-fashioned, now excessive, cropping, can only get 40,000 product tons out of the same ingot.

Later on, if the cards come up right, Armco may install open-hearth capacity at Ashland to feed the full capacity of the new mill. Meanwhile, a gain of 44% in product tons will look real nice on the books.

• **Wider Sheet**—The new mill has other contributions. For one thing, it

can roll sheets up to 80 in. wide, a lot wider than the old mill could handle. That means opening up broader and more remunerative markets.

For the steel man, the new mill has a lot of interesting features; not firsts in the industry, maybe, but the very latest thing. In older mills, the ingot was rolled in one stand—for the layman, a stand is a single set of rollers, no matter how many there are in the set. To turn the ingot into sheet, it was passed back and forth through the rollers. Periodically, the thing had to be turned up on its side and rolled that way, to keep the sides in proper shape.

The new Armco mill uses two stands, one to elongate and flatten the ingot, the other to keep the side walls straight. There's a solid gain in efficiency. So is the new arrangement by which, as the sheet rolls out of the mill at 22 mph., it can either be rolled into coils or cut into separate sheets. So is the X-ray device that continuously gauges the strip for thickness in the finishing train of six stands. So are the moving steel optical pyrometers that give a constant check on temperatures at points around the half-mile-long building "the longest roof in Kentucky."

• **Development**—All in all, the new mill is the very latest, most up-to-date chapter in a story that began at least as far back as 1798. That's the year of the first known description of the idea of continuous rolling. In 1865 a patent was issued for a continuous mill. In time, successful continuous mills came into operation. But they were strip mills, their product was very narrow. The industry was baffled by the problem of converting the continuous process to the production of wide sheet steel.

It was baffled, that is until 1923, when John Tytus, superintendent of Armco's hand sheet mill at Middletown, Ohio, licked the problem. What Tytus worked out, by a mixture of abstruse physics and plain common sense, was the revolutionary mill at Ashland—the mill that is now the tired old girl almost ready for the discard.

• **Off the Rollers**—The catch in the continuous rolling of wide sheet was that the stuff would stray off the rollers, whereas the narrower strip was more docile. Guides couldn't be used on the sides of the mill, for the thin sheet would butt into them and destroy its own edges. Yet the sheet had to be kept moving, suitably hot and suitably fast.

Immensely over-simplified, what Tytus did was to use very slightly concave rollers. He evolved the exact, the immensely precise degree of concavity that alone would do the trick. This, plus a lot of other technical things, finally got the sheet to stay where it belonged.

• **Statistics**—Cold figures give you an idea of the change in the industry that was started by Tytus' development. In 1923, 20-gauge cold-rolled sheet sold for $135 a ton, though the average wage paid to produce it was 59.6¢ an hour. Last year, the product was down to $104 a ton, although the average wage was $2.04 an hour.

Or look at production. The nation's output of flat-rolled steel in 1923 was 11.6-million tons; last year it was 39.7-million tons. It just wouldn't be possible to reach the present production without continuous mills, regardless of cost. Flat-rolled was 31% of all steel products in 1923, last year it was 53%.

Of course, that 53% was mostly turned out by mills a lot more modern than Tytus' job. Enormous technical strides have been made in 30 years. A whole host of electrical equipment has been worked out to drive and control the mills. Combustion, metallurgy, and mechanics have made tremendous strides.

• **Still Going**—You get this picture of progress vividly as you look at the two mills in Ashland, the new and the old—the old that made the new possible—lying almost side by side. But you get something else, too. You see that the old mill still has life. For one thing, it can roll deep-drawing shell steel right now, and that is something that Armco has a lot of orders for. The new mill can't do the work yet, not till some auxiliary equipment is installed. Indeed, the new mill is still being adjusted and babied and polished; it will be some time before it will be able to run continuously at high capacity. When it is tuned up though, it will be a pretty sight.

Meanwhile, though, the old mill keeps on rolling steel, and there are those who love it. One steel man, with a streak of poetry in him, put it like this: "It's frowzy, undignified, dilapidated, but it's an entirely wonderful character. When it's finally retired, I'd like to set it up in my backyard, and restore and polish it the way some people polish up 1915 autos."

TV Fights for Its Crowning Glory

Next Tuesday a complicated helicopter-jet-bomber-P-51 relay will carry the tapes of the Coronation telecasts from England to Boston for NBC and CBS. It will seem like a simple race through upper air. It will be simple, too, compared with what the two big networks have waded through to get into the race. That rat race started more than a year ago, over strictly an obstacle course of red tape and general woe.

To the engineers, technicians, and troubleshooters who have struggled against fantastic snares and snarls, it will be something of an anticlimax when a souped-up P-51—whether it be NBC's or CBS'—wins the race to Boston, from which the show will be put on the air for the United States. An outsider might think they would be too tired to care.

NBC began its planning for an eventual coronation back in December, 1951, while George VI was still king. The following May it applied for camera positions. Technicians were hard at work on both fast film processing and quick kinescopes. The public relations department had to convince British Broadcasting Corp.—which will pool the coverage of the actual Coronation, which it alone can provide—that the commercial sponsoring of the NBC programs would not offend good taste.

CBS, for its part, has compiled a sort of log of the assorted difficulties and frustrations that it encountered. The Coronation, CBS says wearily, presents more technical troubles than an atom bomb test, inauguration, or carnival.

Just to begin with, the CBS workers jousted with the usual miseries of translating British money and measures into American. By the time they were fairly glib in shillings and pence, they realized that British electricity is geared to 50 cycles, while all the specially imported American equipment called for 60 cycles.

Adaption and conversion cleared this up. Later, came an untangling of the British "vertical polarity" vs. U.S. "horizontal polarity," a pleasant little engineers' nightmare.

Getting the TV signal to the London airport proved tougher than it looked. By moving antennas and tethering interference-creating lawnmowers, reception was improved. That seemed to ensure transmission by one route, but the engineers decided that they wanted protective coverage via microwave. It turned out that this took something resembling a treaty with Britain just to get started.

Then, some invisible mountains, or skyscrapers, or something that were not shown on the surveys began to get in the way of the microwaves. The engineers got around this by a devious route. The TV broadcast of the Coronation will be fed by coaxial cable to a point about 15 mi. west of the London Airport. There it will be demodulated and sent by another coaxial cable to a place called Slough, where it will be microwaved hither and yon to the target hut in the center of the airfield. There the precious broadcast will start its ocean trip by jet bomber.

Latest Addition To Sinclair's Tanker Fleet

This noble 25,000-ton tanker, capable of a speed of 18 knots, will be ready for service this month

The price you pay for gasoline (excluding tax, of course) is the same now as it was about 25 years ago!

That's a remarkable statement, and an even more remarkable achievement.

More efficient tankers are one of the reasons why you, as a motorist, get such a bargain today.

And the latest in efficient tankers is the vessel you see above, just before it was launched.

This "little super tanker" is the newest addition to the Sinclair fleet and a new unit in *your* fuel line.

By its size, speed and flexibility, the new tanker will help reduce Sinclair's transportation costs. Lower costs are a definite part of Sinclair's "plan for balanced progress", one portion of which emphasizes low-cost transportation by means of more efficient pipe lines and tankers. In any business, economical distribution always shows up well on the profit and loss statement.

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Each roll marked every six inches. Fast, easy way to figure tape needed for any job. Saves time, saves tape. Another exclusive Mystik feature!

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BUSINESS BRIEFS

Downhearted: Trucking interests lost their first bid to get a man of their own on the Interstate Commerce Commission (BW–May2'53,p34). Instead of the man they nominated, Eisenhower picked Owen Clarke, 39-year-old Yakima (Wash.) attorney, to replace William J. Patterson, 72. Dave Beck, AFL teamsters president, said he was disappointed, but still hoped to get a man in one of three remaining posts to be filled.

•

A flare-up of hoof-and-mouth disease among Mexican cattle has closed the U. S.-Mexican border to Mexican cattle again, less than nine months since it was reopened. The outbreak is believed to be the same type of hoof-and-mouth disease that raged from 1946 to 1951.

•

Missouri Pacific RR's request for authority to ask the Interstate Commerce Commission to approve a new reorganization plan was turned down by a Federal District Court in St. Louis. Judge George H. Moore, in charge of the railroad's affairs while it is in bankruptcy, gave no reasons for his ruling but said he would issue a memorandum later. The reorganization plan would have suspended current ICC proceedings under the Bankruptcy Act.

•

A risky plan for industrial rehabilitation is beginning to pay off in Lowell, Mass. Instead of soliciting a manufacturer, then building a plant, Lowell decided to build first, then look for a buyer. The first plant under the program has just been bought by CBS-Hytron, a division of Columbia Broadcasting System.

•

Less than meets the eye: The Supreme Court ruled last week that a federal district court could not enjoin John M. Hancock from piling up memberships on boards of directors in the future. This does not mean a weakening of the Justice Dept.'s fight against interlocking directorships, because Hancock had resigned the positions attacked by the department before the current trial began.

•

Surprise move: Northwest Airlines, Inc., is moving its headquarters and seven top executives from St. Paul to New York City, H. R. Harris, president, announced. The company also reported election of five new officers. Top promotion went to James W. Mariner, former assistant vice-president-sales, who was named vice-president-sales.

"Luck is infatuated with the efficient" — Persian proverb

SIMONDS ABRASIVE COMPANY'S

"Idea Prospecting" Strikes it Rich

OBJECTIVE: To boost productivity and slash costs by systematically investigating, adapting *and* adopting ideas gained from a continuing industry-wide study of production methods and techniques.

RESULTS: Steady improvement of plant efficiency by comparing actual operations against a theoretical "ideal plant plan" which serves as a blueprint for plant and production improvements.

THE STORY: Most companies have their hands full with today's problems, close the books on today's profits. Not so the management of Simonds Abrasive Company. For these top producers of grinding wheels are quite certain that today never ends and tomorrow has already begun.

Reason: In effect, Simonds has two plants — the one that turns out today's products, and another on paper and in actual model form, designed for tomorrow.

Prospecting for Profits

The underlying theory is simple and sound. Simonds' ideal "paper plant" incorporates every conceivable and practicable new production idea that a thoroughly idea-conscious management team has been able to develop or discover from a constant surveillance of other industries' methods and machines.

"It's like prospecting," says William L. Kenagy, Simonds' Factory Manager, "*idea* prospecting, and there's gold in those hills." The gold, of course, flows from the mother lode that every manufacturer seeks to tap: market leadership, resulting from product quality, reduced operating costs and price advantages to the customer.

To many a casual observer, the "gold" of market leadership often seems to be a mere matter of luck. At Simonds, however, they live by the ancient proverb at the top of this page.

Hence, idea prospecting is an important part of each management job responsibility. Kenagy expects his team members to produce new ideas on the same continuing basis that the company's products are made, and those who don't, never make the squad. What's more, this concept runs vertically through the entire organization, with plenty of encouragement to conceive and develop new ideas — and plenty of recognition in return.

A New Kind of Vice President

Simonds' plant engineer doubles as "vice president in charge of the future". One of his jobs is to keep an engineer always busy with a set of plans that represent the company's factory of the future.

Into the ideal plant plan go all the approved ideas that can't be given immediate life. The objective then becomes an active one of getting them into actual operation.

"If ideas aren't immediately put either into the process of development or installation," says Kenagy, "they have a way of getting lost. And there's no profit in a good idea until it goes to work for you."

Many remarkable — and even some remarkably simple — ideas have already gone to work in this progressive plant. They stimulate action when they're actually part of an existing plant plan.

Some examples: ultrasonic testing, result of a joint research project with The Franklin Institute — overhead gravity storage tanks, and automatic continuous ovens — a pharmaceutical pill press for making small wheels, and a $200,000 four-station 1000-tonner for pressing giant wheels — an ink mixer for blending abrasives, and a wood pattern router for shaping grinding wheels.

"The best ideas are common property," said Seneca. To which Simonds agrees — getting good ideas from everywhere, and offering their own good idea in return.

P.S. Today, Jones & Lamson engineers are working in consultation with idea-conscious top men throughout industry, developing greater productivity for tomorrow. Result: there are few new ideas that they are not exposed to — and part of!

SOURCES: *Factory Management & Maintenance*, Sept. 1952; *The Bakelite Review*, Oct. 1952.

JONES & LAMSON MACHINE COMPANY

Dept. 710, 503 Clinton Street • Springfield, Vermont, U.S.A.

Turret Lathes — Fay Automatic Lathes — Thread Grinders — Optical Comparators — Threading Dies & Chasers

1. Said Roving Ray, reporter for the *Earmuff Falls Gazette*. "I came to town to gather news, but nothing's happened yet! The whole day's gone, I'm tired and hot, and things are bad at best. I guess I'll stay at Statler, where I'll really be a guest.

2. "This Statler room's a perfect place to spend a restful night. It's large and airy, fresh and clean—and everything's just right. That big soft bed looks mighty good—the whole room seems designed to put a weary traveller in a cheerful frame of mind.

3. "A good refreshing Statler bath is what I need," said he. "The water's hot, there's lots of soap—and that appeals to me. The towels here are extra soft—and there's a full supply. The Statler really makes an art of pampering a guy!"

4. Then Roving Ray meandered down to have a Statler meal. "What food!" he cried. "What service! What a super-special deal! I wonder if the home folks know how great this Statler is? When a fellow stays at Statler, why, the world is really his!

5. "I've got my story," Ray announced when checking out next day. "The Statler's in the heart of town—it's great in every way! I'll bet the gang in Earmuff Falls would like the Statler, too. When I come back, I'll stay right here—the only thing to do!"

***Here's news!* U. S. Defense Bonds now pay more than ever before!**

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WASHINGTON OUTLOOK

WASHINGTON
BUREAU
MAY 30, 1953

Eisenhower will end up with less than he asked on taxes. His leaders in the House and Senate are now convinced they can't deliver the full program proposed by the President 10 days ago (BW-May23'53,p27). So they are putting out feelers to see what sort of tax package might be passed without running the risk of an embarrassing fight within the Republican Party.

•

A compromise along these lines figured in the talk this week:

- **Extend the excess-profits tax six months** to Dec. 31.
- **Freeze the social security payroll tax,** now 1½% each on employers and employees, instead of allowing it to go to 2% next Jan. 1.
- **Then let the rest of the program wait.** The reductions in excise taxes and in the corporate rate that Eisenhower wants to postpone won't take place until next Apr. 1, anyway. So, it's argued, it won't cost the government any revenue if Congress delays on these taxes until 1954.

•

A deal along these lines is no certainty. It merely represents current thinking of leaders on what might be done.

And there's no certainty Eisenhower would go along. He may prefer to make a fight for his whole program. This week plans were going ahead for further Presidential appeals to the public for support. And such Cabinet officers as Humphrey of the Treasury and Weeks of Commerce were getting ready to argue the President's program before the tax committees.

Finally, there's no certainty of smooth sailing in Congress itself. Many members who will be up for reelection next year have promised lower taxes. Voting to retain the Democrat-set rates would put them on the spot, they feel. Besides, many want early tax cuts to stimulate business and prevent a possible easing off in the fall and winter.

•

Complaints about "tight money" are on the rise. The mail to Congress is getting heavier. But so far there's no word from the Administration on when it will ease credit restraints.

Lenders aren't getting any freer with home mortgage money despite the rise in VA and FHA interest rates. Builders would like to see the government resume home mortgage buying through Fanny Mae (page 114).

Right now, Fanny Mae is waiting for the mortgage market—and the money market generally—to settle down.

Meanwhile, trade predictions of a million or more housing starts this year are all made conditional on some loosening of the money market.

•

The tightness shows in government borrowing, too. In a February refunding, the Treasury rolled over 98.5% of a maturing certificate issue. This week holders of maturing securities exchanged only 80% for a new offering and asked for cash on the remainder.

•

Private use of atomic fuel for electric power will be O.K.'d by Congress, but probably not until next year.

WASHINGTON BUREAU
MAY 30, 1953

Niagara Falls power: The federal government is pretty much out of the picture as a developer. But that doesn't mean a green light for private power. New York State is still pressing for a state "monopoly."

Food and drug inspection: Congress will vote a new law to permit federal inspectors to go into plants. It may not come before 1954, however.

Upping of immigration quotas has a chance, but it's no sure thing. What the Administration is proposing is a general relaxation of quotas. Only about half of the extra 240,000 people would be dispossessed persons.

•

Taft-Hartley act revision has little chance this year. Even managers of the legislation in the House and Senate have about lost hope.

The Administration ducked the issue. House and Senate committees finished their hearings on amendments without receiving any recommendations from the Administration. The White House and Secretary of Labor Durkin played it strictly hands off. They couldn't agree on what should be done.

And the unions have backed off, too. Repeal and revision were hot issues with them under Truman. But today they apparently feel the law as it stands is preferable to what Congress might vote.

•

Labor dissatisfaction with the Administration is growing. Heretofore, critics have been pretty restrained. Now they are beginning to get louder at union conventions and in union newspapers. The gripes: the tight money policy; White House inaction on Taft-Hartley; Eisenhower's failure to strengthen the Dept. of Labor, as he promised.

Secretary Durkin denies reports he plans to resign. The rumors have come mostly from union quarters.

•

The coming Bermuda talks will patch up some differences between the U. S., Britain, and France. But they won't end all the frictions.

Korea is still a hot potato. Then there's the issue of trade between the East and West. Hearings before the McCarthy committee—regardless of whether what is brought out is right or wrong—are making international hard feelings (page 128).

•

National politics add to international problems. In Britain, for example, the Labor Party is waiting for a chance to oust Churchill. It is making an issue of the way the U. S. is handling Korea. And here at home members of the House and Senate use our difficulties abroad to push their own political causes. Many find it hard to support billions for complaining allies at a time when the Administration would deny tax cuts to the voters.

•

A fall session of Congress now seems a certainty. The plan of the leaders is to finish up the appropriations bills, dispose of the tax issue, and recess or adjourn in July. Then Congress would be brought back in the fall for a running start on legislation that must be voted before the Congressional elections next year.

•

Note on the battle of the Pentagon: The Army's demonstration of an atomic artillery shell has stirred a storm of Air Force talk about waste and silliness. But the admirals, generally, are maintaining a benevolent silence; their beloved but obsolescent-looking battleships pack fine 16-in. guns that could readily toss an atomic shell.

Contents copyrighted under the general copyright on the May 30, 1953, issue—Business Week, 330 W. 42nd St., New York, N. Y.

How Western Electric added overhead and saved money with FOAMGLAS®

Architect: Allen & Kelly, Indianapolis
Roofer: Ralph R. Reeder & Sons, Inc., Indianapolis

Impossible? Not at all, for Western Electric Company is finding *that* a very profitable formula at their new Indianapolis telephone plant . . . the world's largest. By *adding* FOAMGLAS insulation *overhead* (on their 20 acre roof), they are *saving money* over and over.

J. Lloyd Allen

The use of increasingly popular steel deck construction had made insulation on the roof mandatory. *Architect J. Lloyd Allen* reports, "The selection of FOAMGLAS insulation for this roof not only cut heating and comfort conditioning costs immeasurably, but has given Western Electric the added advantage of constant insulation efficiency. Only FOAMGLAS has sealed glass cells that are impervious to the moisture that causes ordinary insulations to lose much of their effectiveness."

It always will pay you, also, to insist on FOAMGLAS, the *stay-dry* insulation for use on *your* normal temperature buildings, refrigerated structures or piping and equipment. Please use the coupon so we can send you a free sample and further information.

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☐ Send engineer to help with problem
☐ Advise nearest source of supply

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Company_____

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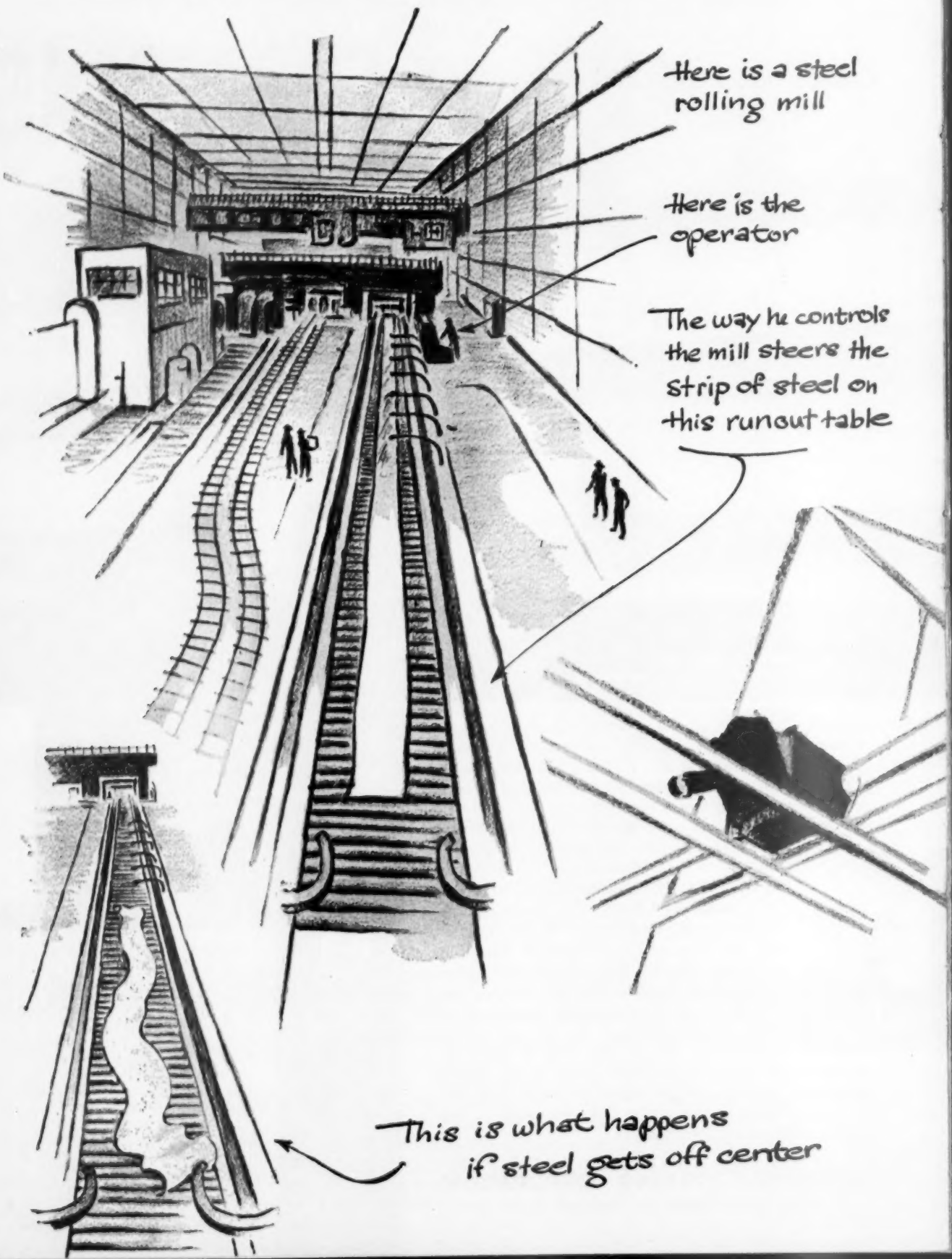
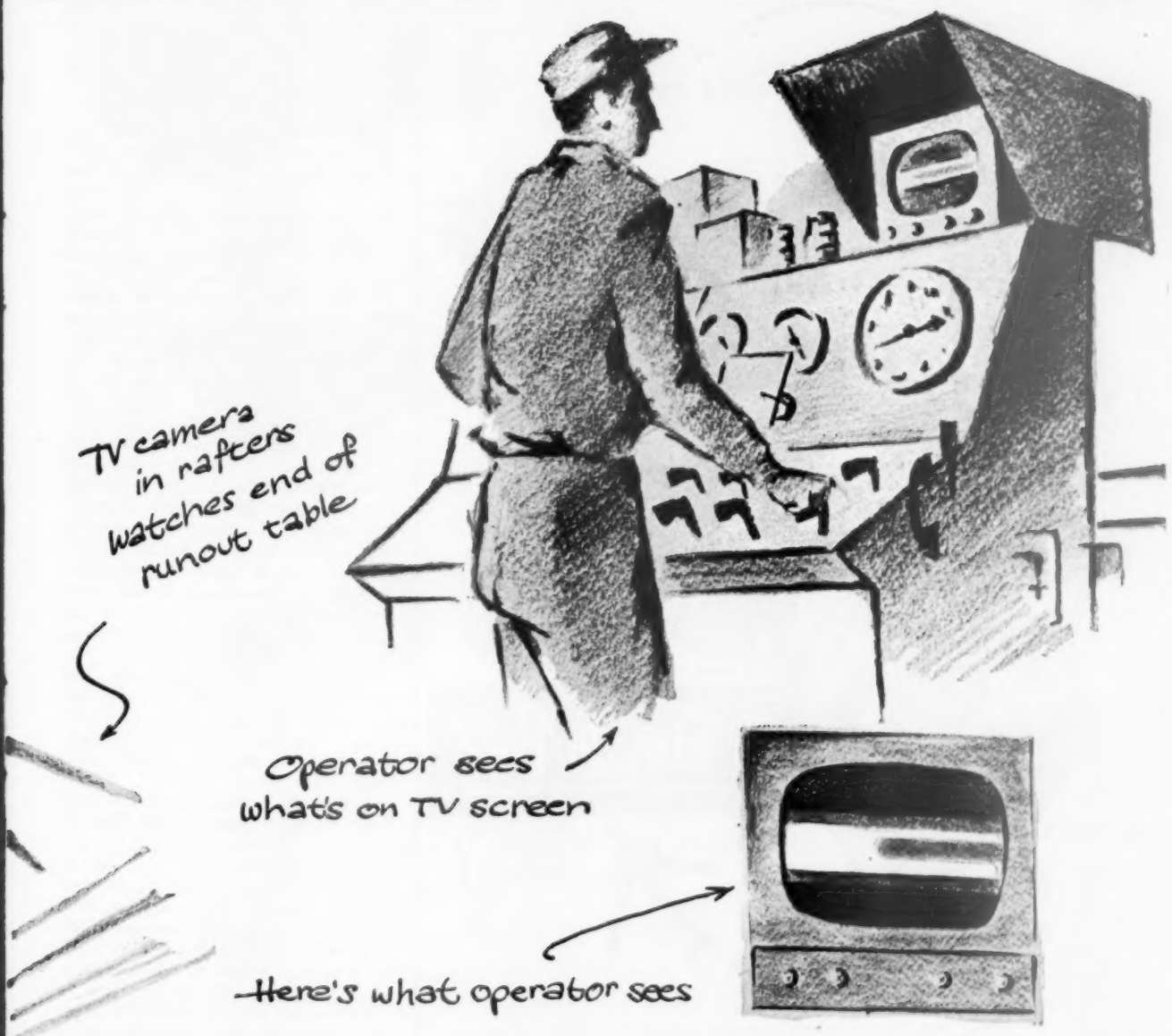
PRODUCTION


Here is a steel rolling mill
Here is the operator
The way he controls the mill steers the strip of steel on this runout table
This is what happens if steel gets off center



TV Covers Industry's Blind Spots

The television eye that watches over the strip mill at U.S. Steel's Gary (Ind.) Sheet & Tin Mill is one more sign that industrial TV is coming into its own. In the past six months, more and more plants have given the camera a chance to prove that it can watch and report on operations where it would be too difficult or too dangerous to have a human observer.

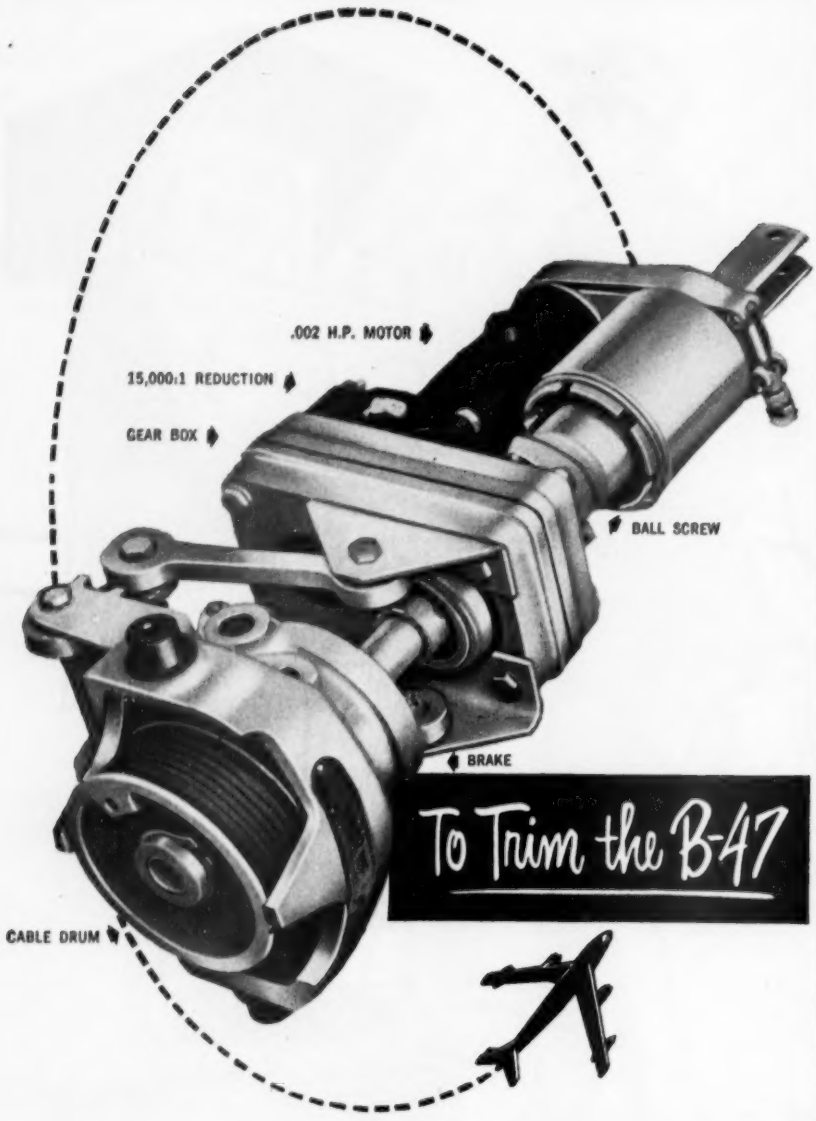
The problem at Gary was fairly typical of plants generally; it was one common to many sheet mills. In the half-mile long building, hot-rolled steel strip moves along rollers at 2,000 ft. per minute on its way to the machines that coil it for cooling and storage.

• **Variations**—From his post at the controls, the operator of the rollers could never see the long (over 100 ft.) strips. But he knew that slight variations in the pressure on either side of the roller would make the strips hook or slice. At best, a crooked strip is hard to coil; at worst, if it's far off line, it will pile up against the side of the coilers. Then, to get the red-hot twisted strip out of the way, and to adjust the presses properly takes perhaps a quarter of an hour, costs thousands of dollars in lost production.

The roller operator knew all about this hazard, but he never could actually tell that something was wrong until the trouble reached the coilers. He couldn't see the progress of the strip. And it was out of the question to post a watcher in the rafters of the building; the man would have collapsed from the heat before he had anything to report.

• **An Eye Aloft**—For the Gary plant, the TV camera has been the answer. Bracketed high up, it has its lens trained on the final rollers, watching the progress of the strip. A closed-circuit cable carries the message of the lens to a receiving set in front of the operator, who is able to spot potential trouble and adjust pressures in time.

• **Still Scarce**—Actually, the Gary application is pretty much the sort of thing the engineers were dreaming



...or to raise a garage door

Vard-Boeing designed, Vard manufactured, this aileron trim tab actuator compensates for load distribution of the Air Force's famous B-47. All components are made by Vard. This same principle of Vard's exclusive Ball Screwjack, which transmits rotary motion to linear motion with up to 90 per cent efficiency, may open doors or perform other duties. It's very likely applicable to a problem you're facing. Write Vard today for details.

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about in the primeval past of television. Those dreams, though, got completely fogged in the sensational development of TV for the entertainment market. Even now, probably fewer than 1,000 of the virtually custom-made industrial units have been installed since 1946.

The closed-circuit units got their first wide industrial acceptance in power plants, where measurement and control instruments play a big part. Since then they have found practical niches watching flames in distant furnaces, water levels in boiler drums, and smoke pouring from furnace stacks.

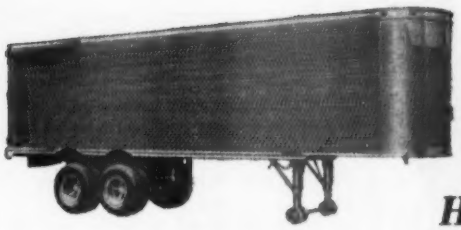
• **Who's Who**—In getting the cameras into power plants, the pioneering was done by Diamond Power Specialties Co., of Lancaster, Ohio, a company that had become known previously for its sootblowers and other power plant equipment. Diamond's TV set is called the Utiliscope. It's what the trade calls a professional set: It has a lot fewer tubes than a studio set, but is sturdier, and costs only about a third as much. The image is transmitted by wire to the receiver. Since it's not on the air, there's no need for a Federal Communications Commission license. Also, the neighbors can't tune in on the plant, and the plant workers can't tune out onto a ball game.

Diamond has sold Utiliscopes to government labs, jet engine test cells, and a variety of plants. The trade generally admits that Diamond has sold more units than the other companies combined.

Two giants in the general TV field, Radio Corp. of America and Allen B. DuMont Laboratories, Inc., have also been making professional units, but at a very leisurely pace until the last few months. Now, having picked up field experience, both companies are ready to broaden their market. This week RCA came out with its TV-Eye unit, priced at only $1,000; DuMont got in a little earlier with its $2,000 Tel-Eye. Both these units cost vastly less than studio TV equipment. They can be plugged into a home receiver, where they become just one more channel. One advantage: A baby sitter, rapt in soap opera, can use the commercial to switch onto channel CRIB, where the camera eye will report faithfully on what Junior is up to. Hotels offer another lively field for the little units; they can bring to each room a full look at the doings in sales conclaves and dining rooms.

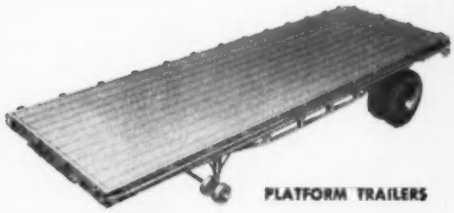
Dage Electronic Corp., of Beachgrove, Ind., is a newcomer eying the low-priced field. Dage has a $2,850 unit that is sold by DuMont and also by Dage under its own name. Government labs and aircraft companies are taking most of the 50-unit-a-month production.

• **Medical Use**—A Rochester (N. Y.)



DRY FREIGHT AND
REFRIGERATED VANS

TANK-TRAILERS
FOR ALL LIQUIDS



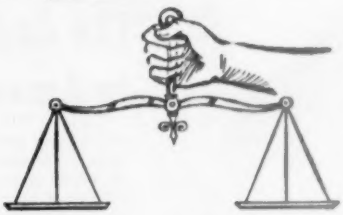
PLATFORM TRAILERS

HOW LONG WILL IT STAND UP?

How Much Will It Cost To Maintain?

WHAT RETURN WILL IT PAY?

IS IT WORTH THE PRICE?



Judge a Trailer BY ITS VALUE!

JUDGE A TRAILER as you'd judge any investment—by its *value*— by the amount and dependability of the return, or service, it will give you. Original price alone is no criterion of a Trailer. There are some bargains that aren't bargains at all if you ask this question: "Does the Trailer have all the specifications it needs to do my job *most profitably?*"

When you invest in a Fruehauf Trailer, you know you will receive the maximum return that transportation equipment can pay. When you put a Fruehauf in service, you know it will stay there, hard at work for a long time—a major asset in your business because of its low maintenance cost, unmatched dependability, and high resale value.

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"The day it rained biscuits in Ames,* Massachusetts"

Any building with unprotected fuel burning equipment holds the same hazard that wrecked the bakery in Ames, caused $130,000 damage, and ended production for a year. The violence of this particular burner flame failure explosion was not exaggerated by the local resident who coined the Yankee classic "Boy! That was the day it rained biscuits in Ames!"

IN ANY PLANT not fully protected — even yours —an explosion can happen if the flame goes out in a fuel burner. Fuel continuing to pour in forms an explosive mixture in seconds . . . to be reignited explosively by the hot firebrick.

Partial protection, from safeguards that require more than a minute for response, can be as ineffective as *no* protection from this hazard. This is the reason insurance companies recommend the kind of protection given by **FIREYE**. They fully approve the **FIREYE SYSTEM** . . . the only complete, and instantaneous flame failure safeguard controls for all types of fuels. An electronic "eye" works with the speed of light when a burner flame goes out, to cut off fuel . . . sound an alarm to burner attendants . . . purge gases . . . monitor pilot and control reignition automatically and safely.

Over 10,000 installations prove **FIREYE** has no equal for reliability and effectiveness. It can be applied to any type burner—oil, gas, coal—generally "overnight," and for only a few hundred dollars.

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Why take chances? Even with modern power, processing or heating equipment, the chances are 4-to-1 you do not have complete flame failure safeguards. Send for this new "primer" on flame failure explosion hazards. It tells how you can make a simple check-up of the protection you now have, and determine your needs. **Actual town name upon request.*

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Covering the U. S. A.—and Canada, factory-trained field engineers provide "know how" of flame failure safeguarding with FIREYE.

surgical equipment maker, Wilmot Castle Co., expects to start turning out two units a month in a few weeks, just for the medical trade. Wilmot Castle has taken over the color TV unit developed by Columbia Broadcasting System, which was originally handled by Remington Rand, Inc., under CBS license.

With increased business interest in industrial TV, several new fields are likely to be exploited this year:

Materials handling. TV can provide extra eyes for spotting materials in scrap yards and the obscure storage corners. In push-button factories, a central operator can control from afar the handling of materials in gondola cars.

Mining. Cameras mounted on digging machinery can watch the sharpness of tools, and detect obstructions. They can also check on the lining up and loading of remotely controlled cars. It is even possible that they will help to guide rescue workers after mine disasters.

Security guards. Plants are just beginning to glimpse the possibilities of closed-circuit units as sentinels. Uses that have been adopted range from watching inmates in the Houston (Tex.) jail to keeping an eye on the customers at Reno gambling tables.

Education. Schools and hospitals are leading users of industrial TV, yet its possibilities have scarcely been touched in these fields. A few institutions have tried television microscopy—the projection of enlarged microscopic slides. And three dimensional TV—one of its uses is in handling radioactive materials—hasn't been tried at all in education since it was devised by DuMont in connection with Argonne National Laboratory.

As for getting industrial TV into the actual production line, that will probably come more slowly despite its current use in chemical processing, testing of jet engines, and in steel plants. The reason for the likely delay is simply that industry has already got around the problem of seeing the unseeable by other means—by remote gauges, intricate sets of mirrors, synchronized motors. Such devices are usually cheaper than TV, and frequently work just as well.

• . . . **And Next**—Now that the major TV trade is getting more interested in its industrial offspring, innovations can be expected to make the units more attractive. With shockproof mountings, TV can take its place in the remote handling of explosives. Watertight housings permit underwater inspection of foundations, sunken ships, and marine life. With windshield wipers, the camera can do its stuff in the rain. Special lenses and insulation permit closer scrutiny of molten metal and furnace fires.

Acme Steel announces
revolutionary new advance in wire stitching

NEW ARCUATE WIRE STITCH
NEW
Acme Steel Arcuate Stitching forms flat wire into arc for greater strength.
OLD
Ordinary flat wire stitch has less holding strength than Arcuate Stitch of same wire size.
ORDINARY FLAT WIRE STITCH

In Acme Steel's new Arcuate stitching method, flat stitching wire is formed into an arc, increasing its column strength, making a smoother stitch with lighter wire, delivering up to 42% more stitches per coil, too!

New Acme Steel Arcuate Stitching cuts wire costs 24 per cent

"Stitching Headquarters"—Acme Steel Company—announces a new stitching method: Arcuate Wire Stitching.

HERE'S HOW IT WORKS: Regular flat stitching wire is formed into an arc by the stitching machine, making a stronger stitch using lighter gauge wire. Increased column strength makes each stitch easier to drive. Stitches drive straighter, clinch better, hold tight.

RESULT: You save 24% in wire costs. You get 42% more stitches from each coil of wire (using .103 x .014-inch instead of .103 x .020-inch wire, for example). Reduces down time. Produces perfect stitches more consistently. This means that you can stitch more cartons per day, and get a better-looking carton every time.

It's easy to adapt your present equipment. There are conversion parts-kits for most popular model stitching machines.

CALL your Acme Steel representative for details. Or, for free folder and sample, use the coupon.

Arcuate Stitching is an engineering development that means real savings for boxmakers and shippers. Arcuate Wire Stitching method increases column strength of lighter gauge wire, thus lowering material cost.

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Please send me free copy of your new folder on Arcuate Wire Stitching and a stitched sample.

Name _____ *Dept.* _____

Company _____

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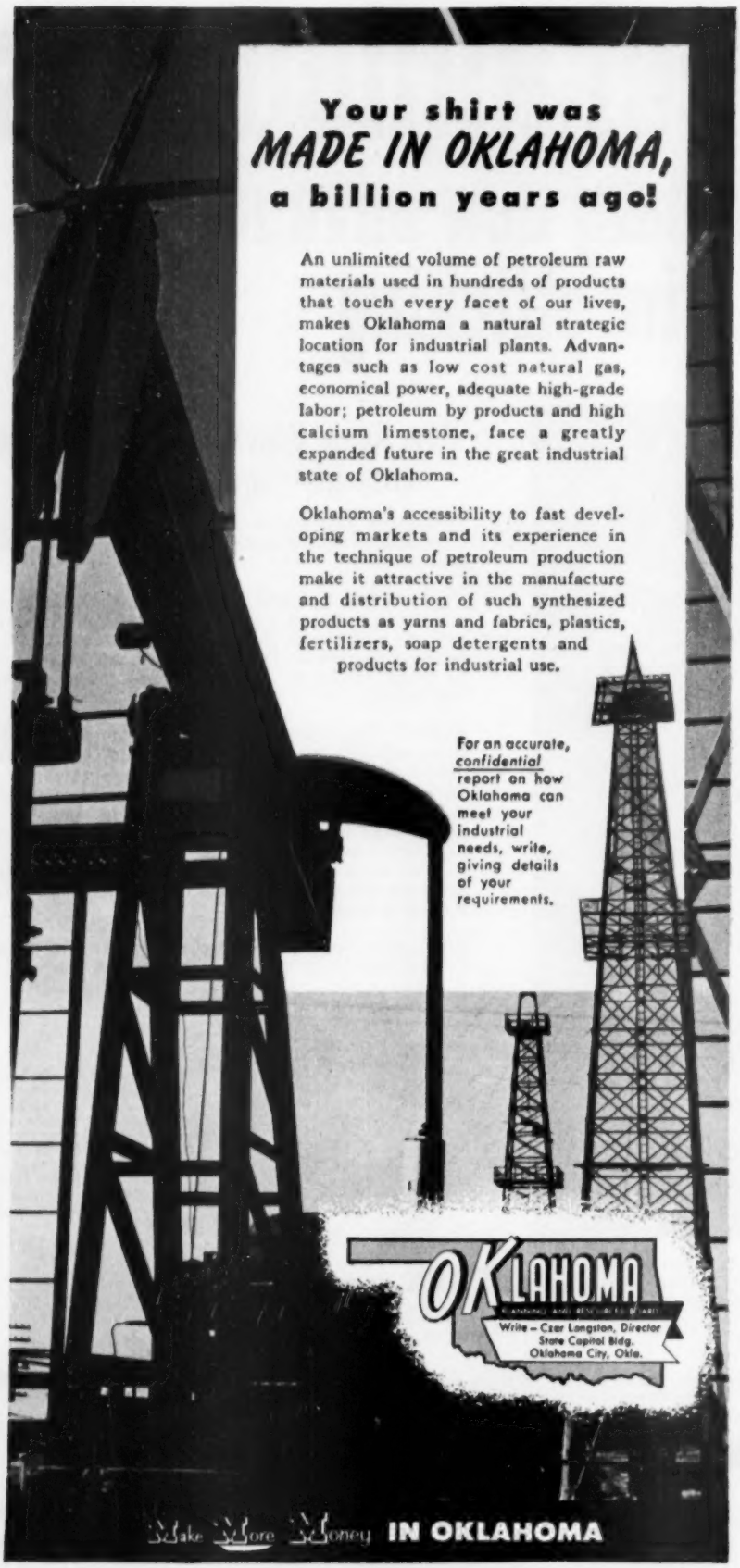
City _____ *Zone* _____ *State* _____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PRODUCTION BRIEFS

Vacuum tube failure is getting close attention at Cornell University, where a team of electrical engineers is studying thousands of burned-out and otherwise defective tubes provided by the military. Each tube is tested and correlated with a history of where and how it was used. This information may lead to recommendations about circuit design and operating procedures that will help in designing and making more reliable tubes.

•

Synthetic rubber is one war baby that won't be put away in mothballs. A U. S. Rubber Co. official estimates that about two-thirds of the rubber used in the U. S. last year was synthetic. In fact, synthetic rubber plants operated for the government by private industry produced more rubber in 1952 than this country consumed in any prewar year.

•

Vinyl plastic is fast becoming one of the hottest items in the flooring industry. Society of the Plastics Industry, Inc., reports that, with its resistance to everything from gasoline to kitchen greases, vinyl is making a "reasonable" threat to outmode most other types of flooring and set a new standard.

•

A new boiler and turbogenerating unit designed to cross the barrier of the critical pressure of steam for the first time in the commercial production of electric power has been ordered by American Gas & Electric Service Co. Babcock & Wilcox Co. will build the boiler to stand steam pressure of 4,500 psi. (almost double the present record) at 1,150 F. General Electric Co. will make the 120,000-kw. turbine.

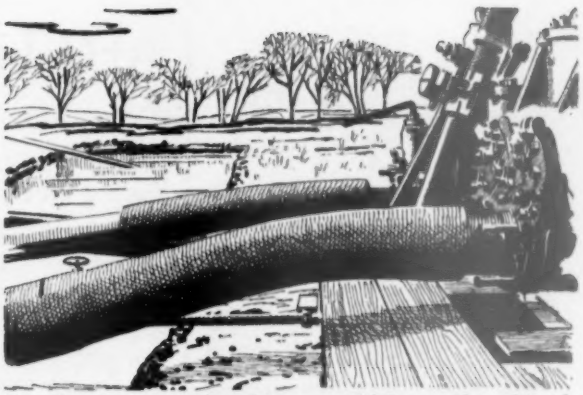
•

A Goliath among shavers is the new gear-shaving machine constructed by National Broach & Machine Co., Detroit, Mich. It can handle gears up to 180 in. pitch diameter (the kind that weighs about 30 tons and has from 900 to 1,800 teeth used in marine powerplants. The shaver weighs about 115 tons, operates on precision of 0.0002 in.

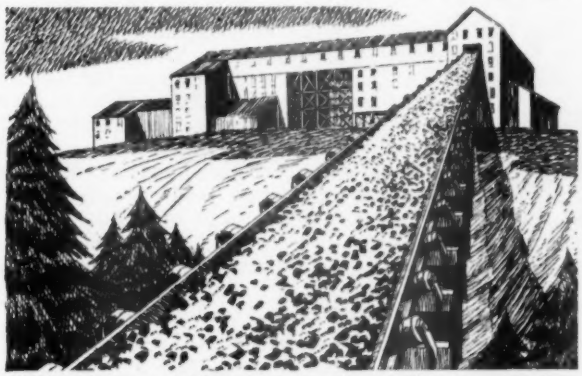
•

A new electroplating plant, which introduces mass-production techniques to job-lot electroplating, is now operating at the Swissvale (Pa.) plant of Union Switch & Signal Div. of Westinghouse Air Brake Co. Facilities provide for fully and semi-automatic plating of a variety of metals, including nickel, copper, zinc, cadmium, chromium, tin, gold, and silver. Originally designed to consolidate electroplating facilities for the company, the new plant will soon be available for commercial plating.

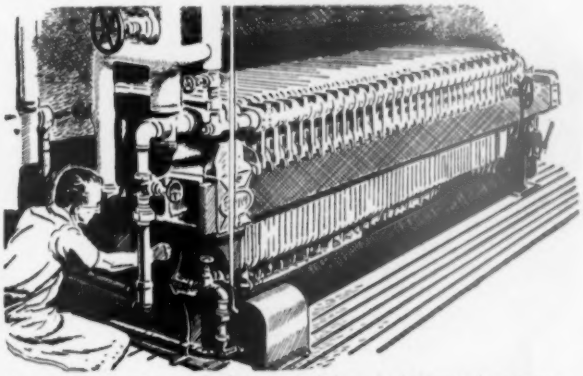
Strong fabrics of tough, light, elastic nylon find many unusual uses, as in the reinforcement of inflated rubberized pontoons for military bridges.



Versatile cotton's natural qualities are useful for a wide variety of industrial textiles, such as the hose duck in pump intake hoses.



High tenacity rayon reinforcing fabrics make it possible to produce low-gauge rubberized conveyor belts that are strong, yet light and flexible.



Acrylic fibers, such as Orlon* and dynel, have high chemical resistance, which is usually essential in filter cloth used for filtration of acids.

Industrial Fabrics of Cotton, Rayon, Nylon, Orlon,* Dacron,* Dynel and other fibers

The development of many new chemical textile fibers has added another dimension to designing industrial fabrics. For not only does each of these fibers have highly individual chemical and physical characteristics, but the properties they give to fabrics vary with the type and size of yarn, the construction and the finish of the fabric. Moreover, there are innumerable ways in which they can be combined, both with each other and with traditional fibers.

Our experience with industrial fabrics dates back more than a century. As new fibers have been introduced it has been our policy to begin experimenting with them immediately—adding to our general knowledge of industrial design a knowledge of the characteristics of each new man-made fiber.

In certain instances, we have been able to effect quite dramatic improvements in wear life and overall cost through the use of synthetics. This has been true both in industrial and military applications, particularly where strength, light weight, chemical resistance and other important requirements have been present.

Whatever your textile problem, whether it calls for an entirely new type of fabric or improvement of a conventional one, let's have a look at it. Chances are our engineering and technical staff can work it out.

*duPont trademark

Wellington Sears has prepared an illustrated 24-page booklet filled with valuable facts on fabric development and applications which will be of interest to present and potential users of industrial fabrics. Write for a free copy of "Modern Textiles For Industry" to Wellington Sears Co., Dept. G-8, 65 Worth Street, N. Y. 13, N. Y.

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There's a type and grade of fir plywood for every use

AEC Lifts One Veil

Atomic Energy Commission gets set to release parts of reports of four industrial groups on the feasibility of producing electric power from atomic energy.

One of the steepest barriers to commercial use of the atom on a broad scale is the wall of official secrecy that surrounds virtually all phases of atomic work.

A good deal of this mystery is essential to keep valuable military information out of the hands of the Russians. But some of it looks like nonsense to a lot of people.

Now the Atomic Energy Commission is preparing to take the wraps off what is generally regarded as one of its silliest secrets. In a day or two, the commission probably will turn loose portions of reports by four industrial groups on the feasibility of electric power production from atomic energy.

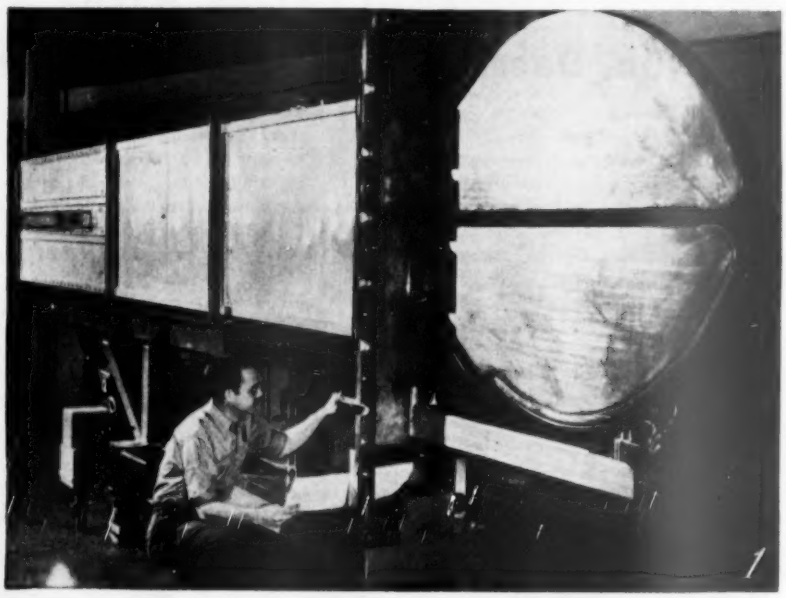
AEC has been sitting on the reports since last October. However, existence of the reports and even some of their general conclusions have been common knowledge for months (BW—Mar.14 '53,p102).

• **Contents**—The prevailing hunch is that the only data of conceivable military significance in these documents when they were submitted to AEC last fall were some detailed discussions of fuel elements and operating costs of reactors (atomic furnaces). These are sensitive matters because part of our bomb materials is produced in reactors.

On the other hand, the reports must have delved in far more detail into such matters as the types of heat exchange systems necessary to carry heat from a reactor to a steam generator. The problems involved in building such heat exchangers, valves, pumps, steam generators and the like, for use with reactors, are major delaying factors in the development of atomic power.

• **Scarce Know-How**—Solutions to such problems, according to competent technicians, come hard partially because only a handful of companies have any substantial working knowledge of reactors. These are the firms, and their technical staffers, who actually build or operate AEC's reactors.

• **First Studies**—The reports were made after a year of study at AEC installations by the following firms, working as two-company teams: Commonwealth Edison Co. and Public Service Co. of



It Fuses Atoms Instead of Splitting Them

This new cyclotron at the Oak Ridge National Laboratory is the reverse of most machines of its type. Instead of splitting atoms, it fuses light elements into heavier ones—with the help of 25-million electron volts. That might make it useful in the development of the hydrogen bomb. Atomic fission, which works the other way around, is the basic step in setting off an atom bomb or a nuclear reactor.

You always get something extra when you reach for Chase Brass. *Extra* beauty. *Extra* wear. *Extra* resistance to corrosion. Whenever you have a choice of metals *your best buy is usually brass.* There are many different kinds of Chase Brass. You'll find one kind *ideal* for precision instruments . . . another for costume jewelry . . . still others for springs, screws and bolts. Chase Metallurgical Advisory Service *will help you choose the proper copper alloy* for any manufacturing job. Contact your Chase wholesaler or one of the 27 Chase warehouses and sales offices listed below.

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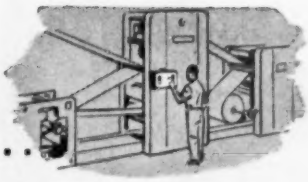
of temperature, humidity . . .



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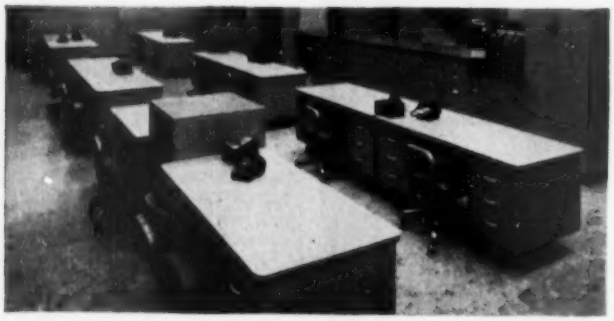

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STEELCASE
Business Equipment

Northern Illinois; Dow Chemical Co. and Detroit Edison Co.; Monsanto Chemical Co. and Union Electric Co. of Missouri; Pacific Gas & Electric Co. and Bechtel Corp.

At the outset, the four industrial teams were asked by AEC to study the prospects for a plant that would produce both fissionable material and electric power—a dual-purpose plant. But shortly thereafter, AEC lost its interest in reactors that would produce large quantities of fissionable material. The reason, in part at least, was that the vast expansion of AEC's own production facilities, now under way, promised to supply ample bomb material.

For the firms involved, AEC's change of heart took a lot of the steam out of the studies. Costs of any atomic power plant that could be built within a few years would be extremely high. Unofficial estimates ran from $50-million to $150-million.

Nonetheless, all of the industry teams kept right on poking into atomic power prospects after they completed their survey for AEC last year. Obviously, their preliminary findings gave them solid grounds for enthusiasm, of varying degrees, despite AEC's disenchantment with dual-purpose plants.

• **Dow-Detroit Edison**—Probably the most enthusiastic—certainly the most active—team is the Dow-Detroit Edison group. Last year these companies contracted with AEC for a second round of atomic power studies. Objective of the new study is to work out details preliminary to actual construction of a reactor, including tests of materials and components.

Some 25 additional companies now are affiliated with these two firms in the project. Most of the joiners are electric utilities, but among the others are Ford Motor Co., Bendix Aviation Corp., engineering firms and manufacturers of industrial power equipment.

The Dow-Detroit Edison group is proceeding largely with its own funds. Government participation is limited largely to AEC's grant of access to its test facilities and technical data.

• **Other Projects**—The Monsanto-Union Electric team, until recently at least, still wanted to go ahead with a dual-purpose plant.

The other two teams have continued their investigations, though largely without further formal cooperation from AEC. But Commonwealth Edison-Public Service recently sent a second report to the commission. This document still is under wraps.

A fifth industry team, Pioneer Service & Engineering Co. and Foster Wheeler Corp. got the green light from AEC last October. Its study is aimed from the start at development of a plant primarily to produce power—rather than dual-purpose facilities.

Assure Top Efficiency

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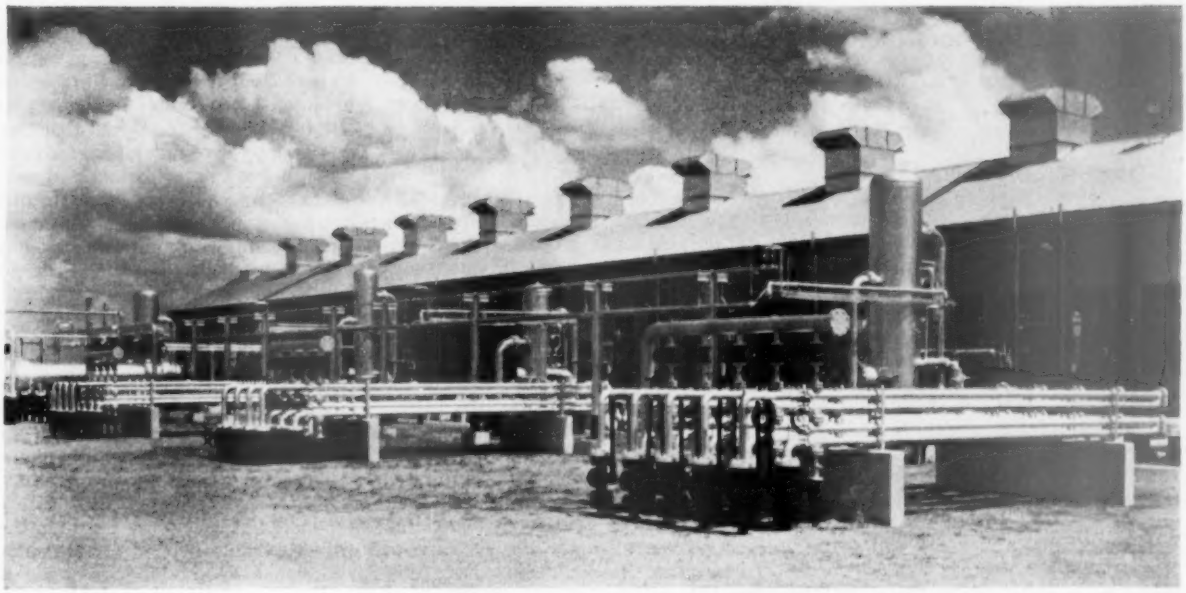

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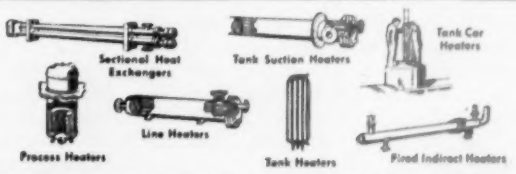

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MEMPHIS • BIRMINGHAM • NEW ORLEANS • SHREVEPORT • TULSA • HOUSTON • DALLAS • DENVER • LOS ANGELES • SAN FRANCISCO • and ST. THOMAS, ONT.

NEW PRODUCTS

Heyday Is Dawning for Innovations

● It's blue skies for sellers of industrial products now, but storm clouds are gathering.

● So manufacturers are ready to cover the market with new products by next spring.

● They won't all be new, but they'll feature better design, claim lower cost.

There's a good chance that purchasing agents will see a surprising influx of new industrial products in their next-spring catalogs.

The shower of innovations has been building up for a long time. Why? Because experts anticipate much stiffer competition in sales of equipment for production, materials handling, and maintenance after the new year. To meet it, the manufacturers will release products that claim better design, more exacting engineering, and lower operating costs.

• **About Face**—The surge will mark a complete turnabout in market conditions in less than three years. In late 1951 there was a long, deep slump in new products that was more than just a seasonal dip (BW—Nov.17'52,p138). The main cause was Korea. Manufacturers explain it this way: Many producers were tied up with defense work; engineering and production staffs had no time to work on new products. Even if they did, materials shortages would have nipped their developments in the bud.

Right now, industrial products are easy to get and just as easy to sell. But manufacturers know the boom won't last forever.

• **Half and Half**—The products that will turn up next spring in catalog sheets and news releases won't completely take your breath away. About half can be classed as innovations. They'll fit into niches that have been vacant for a long time. One manufacturer, for example, hints at a product for foundries that will push the industry one step closer to automation.

The other half will be extensions of manufacturers' current lines. Most will have refinements, though, that promise more efficient operation and cost cutting, the kind of features that customers want in a competitive period. A few will have eye appeal, but not much else.

• **Aloof**—A few companies, however, might be left at the post, or get off to a slow start. The defense program is still holding some of them back. An official of one aluminum producer says that one customer is now holding off on a new product because it is "still somewhat concerned about the continuing supply of aluminum that would be required."

Another company, a specialty manufacturer for the mining industry, will stay aloof because it tried to combine product development for commercial and military customers in its operations but hasn't been completely successful. The company blames the shortage of engineering talent, and has now brought in an outside consultant to handle research and development in mechanical engineering.

Machine tool builders are holding back more than any other industry. That's because right now deliveries are running from 9 to 15 months behind the orders. If the manufacturers announced a model change or refinement now the customers would cancel their old orders and send in new ones, hopelessly snarling operations. So the builders will wait till the backlog drops to a period of weeks, then spring their new developments on the market.

• **First Crack**—Some early birds are already in the field, however. Lewis Welding & Engineering Co., Cleveland, recently announced its urgency this way: That company's backlog of new products was starting to get low, and it feared that some competitor might come out with similar machines. So Lewis pushed the development and introduction of these products, to get a head-of-the-line spot when the customers really start looking around.

An early aggressiveness is also in the works for Stewart-Warner Corp., Chicago. S-W has opened up with a big list of products: a lubricator for conveyor systems, a stoker machine, a walkie-talkie radio for personal use, and a heating unit for diesel engines.

Some producers are cutting a lot of nonstandard products from the catalogs. One big tool and hardware distributor in the Midwest complains that it is swamped with too many new products. So it is trying to standardize its inventory. But one expert thinks that there's a reason behind this move. Next spring, a salesman can't afford to spoil his pitch by confusing a customer with a lot of similar products that really do one job. By standardizing, it's easier to push just one or a couple of items.

• **On the Lookout**—Manufacturing companies in Los Angeles, says one industry man, "are hunting assiduously for new products to bolster their post-Korea lines." Many are camping on the doorstep of L.A.'s Chamber of Commerce, which has an industrial department for corralling product ideas that local companies can use. Chamber engineers and marketing experts screen the new ideas or inventions, pass them on to the manufacturers or distributors.

Diversification is the word that describes the Angelenos' plans for new products. One local manufacturer, whose earnings depend greatly on subcontracted defense work, is going into a wide range of products such as water coolers, vacuum cleaners, and heaters. A plastics firm, one that ordinarily makes sound recordings, will market an "official" toy gun for tots with space patrol badges.

Handy Porcelain Spray

A portable flame spray that puts a porcelain coating on the steel plate of bridges, ships, and buildings is the latest device in the struggle against the $6-billion annual loss to corrosion. The coating, sprayed on at the site, is designed to give protection against sea water, weather, smoke, and chemicals.

Seaporcel Metals, Inc., makers of architectural, marine, and industrial porcelains, spent 18 months developing the spray. The problems: (1) to find what porcelain ingredients could be effectively melted in a short time, and (2) to work out the correct fusing time for a group of ingredients, each of which had a different melting point.

Seaporcel's answer is a 5-lb. hand gun connected to the material-carrying trolley by four feed lines, each controlled by a knob on the gun's handle. A fifth line, of compressed air, forces the materials through the nozzle in a continuous stream; at the same time the air keeps the metal parts of the gun from overheating.

In action, the flame from the 1-in.

Specify

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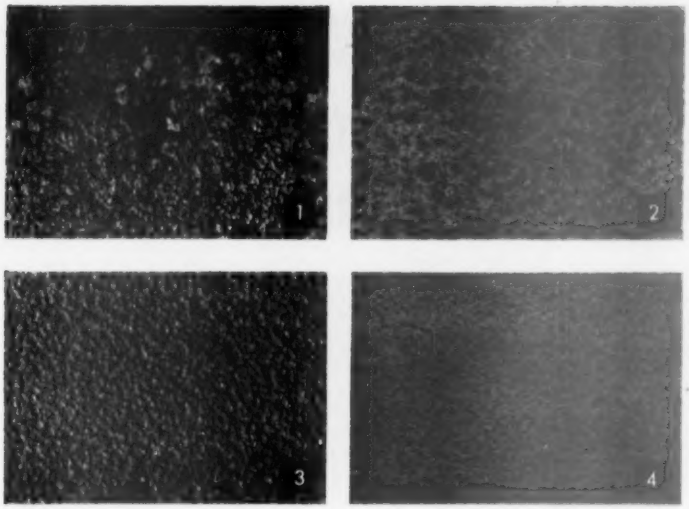
HIGH-TENSILE STEEL

for Longer Life through Corrosion Resistance



Photographs show effects of atmospheric corrosion after six years' exposure of unprotected surfaces.

1. Low carbon sheet steel showing friable heavy rust.
2. Low carbon sheet steel with rust removed showing heavy pitting.
3. N-A-X HIGH-TENSILE sheet steel showing tightly adhering rust.
4. N-A-X HIGH-TENSILE sheet steel with rust removed showing absence of excessive pitting.

Low carbon sheet steel lost four times more weight than N-A-X HIGH-TENSILE in six-year test. With increased time this ratio becomes greater.

N-A-X HIGH-TENSILE, having 50% greater strength than mild carbon steel, permits the use of thinner sections—resulting in lighter weight of products. It is a low-alloy steel—possessing much greater resistance to corrosion than mild carbon steel, with either painted or unpainted surfaces. Combined with this characteristic, it has high fatigue and toughness values at normal and sub-zero temperatures and the abrasion resistance of a medium high carbon steel—resulting in longer life of products.

N-A-X HIGH-TENSILE, with its higher physical properties, can be readily formed into the most difficult stamped shapes, and its response to welding, by any method, is excellent. Due to its inherently fine grain and higher hardness, it can be ground and polished to a high degree of lustre at lower cost than can mild carbon steel.

Your product can be made lighter in weight . . . to last longer . . . and in some cases be manufactured more economically, when made of N-A-X HIGH-TENSILE steel.

GREAT LAKES STEEL CORPORATION
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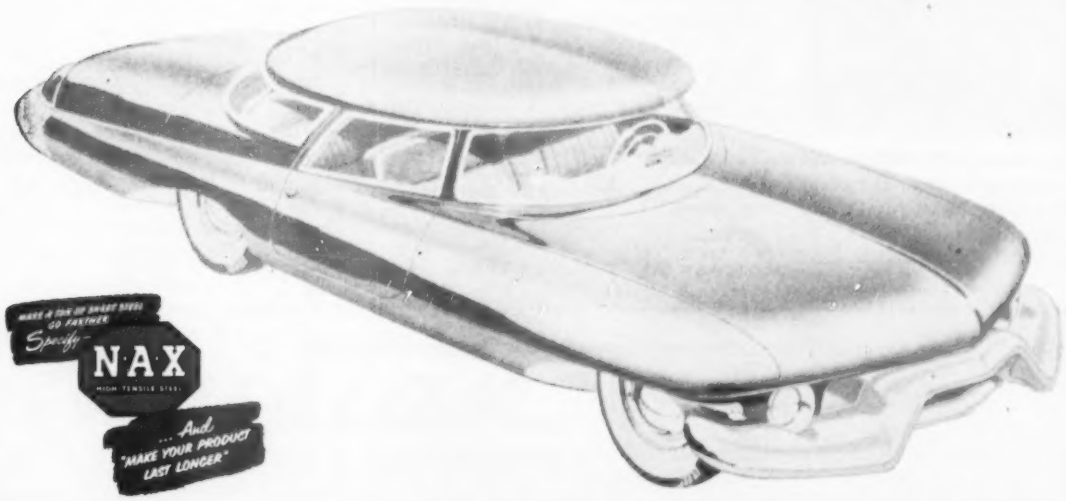

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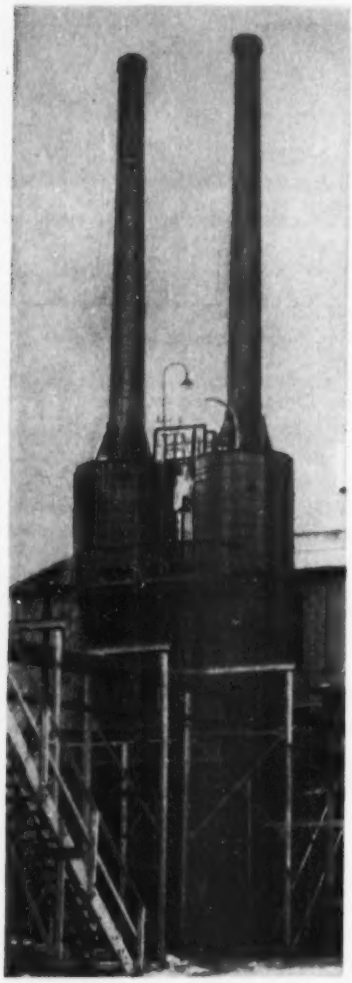
(Advertisement)

INDUSTRY NEWS IN BRIEF . . .

SANTA FE TANK & TOWER COMPANY OFFERS A SPECIALIZED ENGINEERING SERVICE



A part of a battery of scrubbers and fume stacks in a large chemical plant to remove acid fumes and recover by-products.

Los Angeles, California...Throughout the nation a problem exists... the removal of acid fumes and dust that is emitted from many industrial plants. Engineering firms are constantly being asked to design processes for their removal or recovery.

The Santa Fe Tank & Tower Company, specialists in the field of structural design, fabrication and installation of these units, is cooperating with basic engineering companies to help to effectively cope with this problem.

An example of cooperative endeavor is illustrated here by a chemical plant project directed by The Ralph M. Parsons Company. The Santa Fe Tank & Tower Company cooperated with this internationally known engineering firm in determining the proper materials to be used... and to structurally design, fabricate and erect this battery of scrubbers. As a result of this cooperative effort, the ultimate customer, as well as the community surrounding the plant, was best served.

Serving practically all industries, the Santa Fe Tank & Tower Company is probably the most dependable source for these specialized washer installations. Santa Fe offers this specialized service to engineers.

Santa Fe maintains branch offices in all principal cities. For complete information and engineering data on Wood Pipe, Wood Tanks, Cylindrical Gas Scrubbers, Cooling Towers, and other wood specialties, write to Santa Fe Tank & Tower Company, 5401 So. Boyle Avenue, Los Angeles 58, California.

nozzle first heats the steel surface; then the porcelain mixture is blown through tiny holes around the nozzle. The flame heats the material to about 1,600F, at which point it fuses to the surface. Seaporcel claims that in a matter of minutes the metal plate has a life-time glassy finish, as colorfast and easy to clean as the family bathtub.

Seaporcel is introducing the gun as a contract service. After six months or so of field experience, when production is rolling and costs have been accurately determined, the company expects to be ready to discuss sales and licensing.

• *Source: Seaporcel Metals, Inc., 28-20 Borden Ave., Long Island City 1, N. Y.*

NEW PRODUCTS BRIEFS

An alkali compound that will not etch or discolor aluminum, yet is so powerful that it will spray-wash difficult parts of various metals, has been announced by Van Straaten Chemical Co., 546 W. Washington Blvd., Chicago 6, Ill. The company says the new product is neither toxic nor inflammable, cleans thoroughly and quickly.

•

Bulletproof vests are made of fibrous glass and "laminated ballistic nylon" by Armor Specialties Corp. of Philadelphia for hunters and law enforcement agents. Price is $65, but you have to have an application approved by local police to buy one. The company also plans to use the material in explosive shields and demolition barriers for mining, construction, and excavation work.

•

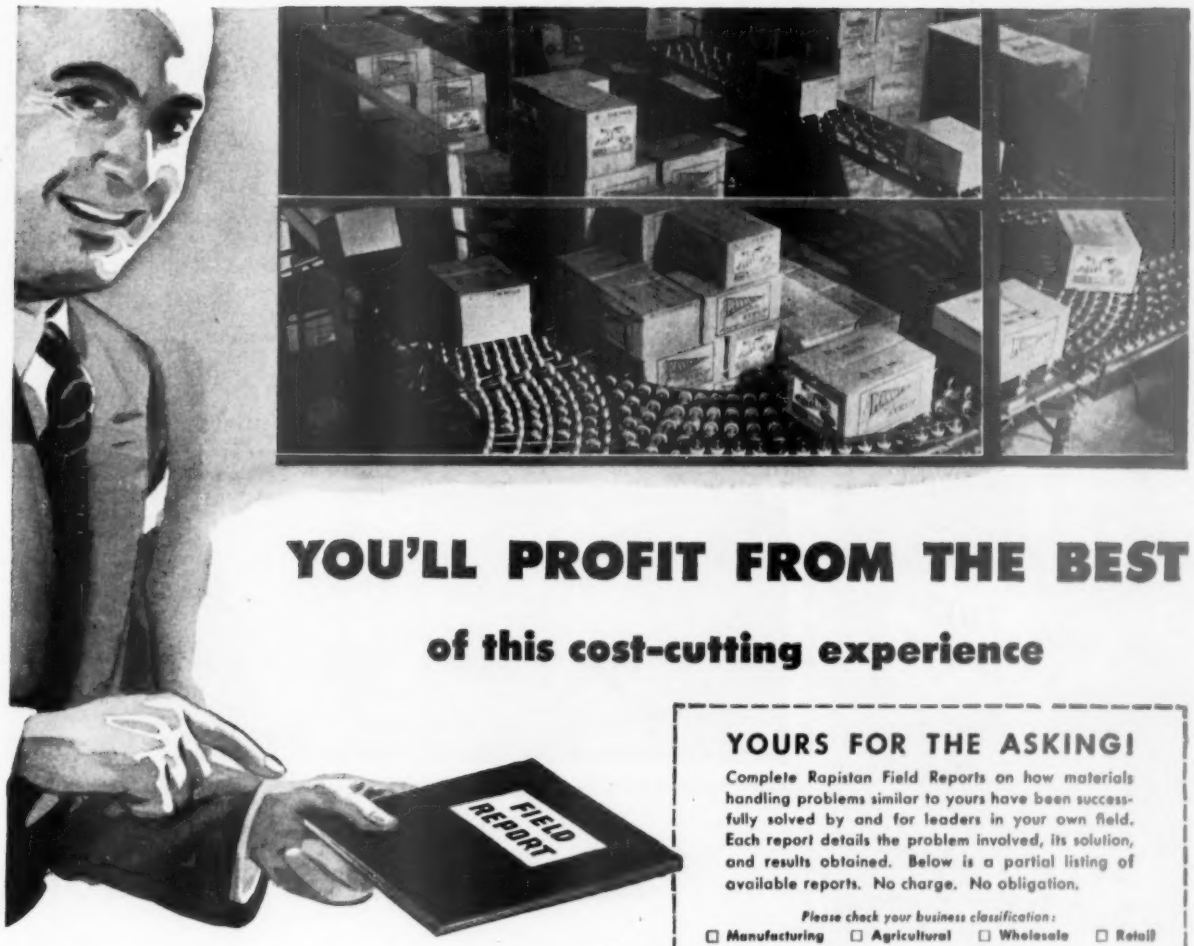
Pormix is a plastic attachment shaped like a shallow bucket with no bottom. It fits over the top of a gallon-size can of paint, keeps the can's sealing groove from filling up and adds about a quart of extra room for mixing. Price is $1, from Pormix Corp., Greenwich, Conn.

•

A portable tape recorder for the consumer field will be introduced next month by RCA Victor Division of Radio Corp. of America. Prime features will be ease of operation, fidelity, light weight, and attractive styling.

•

Continuous infrared analysis of a liquid or gas process stream is now possible with a new Automatic Multi-Component Analyzer in production at Perkin-Elmer Corp., Norwalk, Conn. It's designed to monitor the concentration of up to six components in a liquid or gas stream flowing through a small pilot plant. The entire unit is mounted in a mobile metal console.



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☐ Cosmetics	☐ Meat Packing
☐ Dairy Products	☐ Metal Stamping
☐ Fabricated Metals	☐ Paint Products
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1005 Monongahela Ave., Glassport, Pa.

MARKETING

EXPANDED LINES, now including all sorts of equipment like this clothes dryer, and . . .

Gas Appliances Battle

In an expanding economy, steadily increasing sales don't always mean that all is well on the marketing front. A company—or an entire industry—can be growing and yet at the same time be losing out on its proportionate share of the market. That's the situation of the gas appliance industry at the present time.

Last week, the Gas Appliance Manufacturers Assn. held its annual convention at the Greenbrier Hotel in White Sulphur Springs, W. Va. There was a gala round of cocktail parties, formal dinners, golf matches. But in the business meetings there was plenty to talk about; many of the most thoughtful men in the industry frankly admitted their worry.

• **Joint Drive**—Evidence of this concern is the first really large-scale gas promotion campaign jointly originated and jointly operated by GAMA and the American Gas Assn., the voice for most gas utilities. GAMA and AGA, theoretically close partners, haven't always worked together so closely as they now wish.

In the simplest terms, the trouble in the industry is this. Since World War II, there has been a tremendous expansion in the distribution of natural gas and in the number of its customers. Trouble is, the sale of the major gas appliances—with the outstanding exception of furnaces—has failed to keep pace with the market. The appliances have lost out to electricity.

Electricity's gnawing away at the kitchen range market is a case in point. According to GAMA, the gas range makers had their biggest prewar year in 1941 when they shipped 2.3-million units. In 1952, the figure was 2.2-million.

Meanwhile, electric range shipments, according to Electrical Merchandising, a McGraw-Hill publication, went from 700,000 to 1.1-million. Before the war, at least three gas ranges were shipped for every one electric. Now the ratio is only two to one. That kind of a drop hurts.

• **Cooking**—According to the U.S. Housing Census, over 25-million occupied dwellings cooked with gas—including bottled gas—in 1950. That figure compares with less than 17-million in 1940.

That's a gain from 48.8% to 59.6% of all the nation's dwelling units. In the same period cooking by electricity gained much more rapidly; in 1940, 1.8-million homes had electric ranges;

UPGRADED ITEMS, like this cookstove bristling with gadgetry, are main weapons, as...

to Regain Lost Ground

in 1950 the figure was 6.3-million. Electricity's share of the nation's dwelling units had risen from 5.4% to about 15%.

Electricity has made similar inroads in water heaters. Before the war, gas lead by at least four to one. This advantage has been reduced to about two and one half to one, although gas is generally cheaper for water heating.

Those gas men at the Greenbrier who were willing to talk about their troubles had no doubt about whom to blame—themselves. A large part of the industry simply didn't get ready for the present buyer's market. Lulled by natural gas expansion, they forgot the big sales push.

I. What's Wrong

Warnings, as always, had been sounded. In 1949, Louis Ruthenburg, now board chairman of Servel, Inc., told the industry that the unlimited opportunities in gas didn't eliminate the need for a major sales effort. The next year, his words were lost under an avalanche of scare-buying. The buyer's market rolled in like a cloudbank.

The gas industry wasn't organized to meet consumer resistance; the electrical industry was. The position of the gas industry was due principally to two things:

• Its physical makeup precluded the type of promotion put on by the electrical industry. The gas appliance field is made up of small, scattered producers. The electrical field is dominated by a few big names. The smallish gas-range maker might ask: "How can I compete with the advertising budgets of GE and Westinghouse?"

• Gas appliances had been sold for too long through utilities, which had other functions and couldn't spend enough time on sales. Electrical appliances moved from utilities to dealers years ago, gas appliances only recently, usually to dealers who also handle an electrical line.

According to the American Gas Journal, weak promotion of gas plus occasional loose-jointed cooperation between utilities, the appliance manufacturers and dealers, has resulted in an antigas, pro-electricity attitude among dealers. The journal finds that dealers think the large-scale preselling campaigns of the electrical industry do a good part of their selling job for them on electrical appliances.

• **Hooking Up**—Gas appliance sales

TOWEL SERVICE for 700 at only $70 per month!

● **A well-known CHICAGO** manufacturer installed MOSINEE Pure Sulphate ZIP-TOWLS and SENTINEL Cabinets . . . and said this about the service: "The quality of these towels is excellent and the controlled-type Sentinel Cabinets have enabled us to provide towel service for our 700 employees at a cost of about $70 a month." Better towel service . . . less cost!

Write for Samples and name of nearest Distributor

MOSINEE Sulphate Towels

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Here's how BENDIX *cuts the cost of* WOOD

Bendix makes scores of devices for this field alone

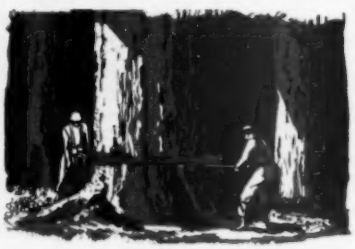
BENDIX TWO-WAY MOBILE RADIO AND PACKSETS
Speed Communications in Woods and Yards

Despite increasing use of man-made materials, wood products are more in demand than ever before. And this is due only in part to population growth. Lumbering and allied industries have met the competitive challenge by greater mechanization, which has not only speeded output but has materially lowered costs.

That is where Bendix products have proved their worth. Scores of these advanced devices now serve this industry in forests, lumber yards, building operations, plywood plants, paper mills and other processing centers. Scores more offer additional ways to speed production, cut costs and improve end products. Here are some outstanding examples:

Communications — Bendix two-way mobile radio provides the industry with its finest communication tool to date. Completely static-free in any location . . . sensitive, selective and powerful as never before, yet using no more amps than an automobile headlight, it assures reception as clear as home radio for 20 miles and more. Bendix also builds fixed stations from 2½ to 250 watts output and provides the necessary engineering aid in setting up systems. Supplementing this equipment in forests and yards is the Bendix portable packset, which weighs only nine pounds. Users say that this new, more powerful and reliable communication equipment quickly pays for itself in time-saving alone.

Engines — Stationary engines, engines for trucks and off-the-road vehicles, engines for power tools — all gain performance and dependability from products of Bendix. Bendix magnetos, from the most trusted name in ignition, assure fast all-weather starting for gasoline-powered equipment such as power saws and donkey engines. Zenith* Carburetors — standard for the heavy-duty field — add economy to engines of every size. Bendix diesel fuel injection equipment performs the same stellar service for diesel engines. Bendix* electric fuel pumps and micronic filters round out industry's top line of fuel-feeding products.



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BENDIX TRUCK AND TRACTOR PARTS
Lower Handling Costs

Instrumentation—Bendix creative engineering follows through to the ultimate manufacture of end products. Bendix Ultra-Viscoson, for example, measures, records and controls viscosity instantly and automatically to speed and simplify work with plywood glues, wood pulps and any other processing involving liquids. Bendix meteorological instruments, standard with weather bureaus the world over, keep check on heat and humidity conditions. And Bendix provides a long list of electronic components for automatic control of factory processes.

As you see, if you deal with wood products at any stage, you will be well advised to learn more about Bendix. And this applies whatever your business, for the Bendix engineering staff of 6000, the 25 Bendix manufacturing divisions and

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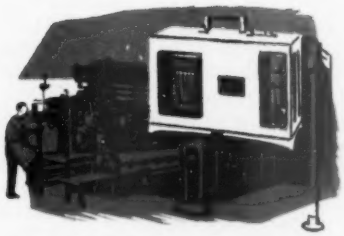
PRODUCTS



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Looks like a machine from Mars — yet the Travel Drill saves money and man-hours for quarrymen — makes a dangerous job much safer.

One man in the cage — swinging himself high over steep and treacherous rock piles — drills dynamite holes in 40 to 44 boulders per hour. By the old method — when a man snaked a hand drill and dangling air hose up each boulder —only 5½ holes per hour could be drilled.

The unique machine is made by Travel Drill Company, Raleigh, N. C., using standard Gardner-Denver pneumatic equipment: rock drill and feed, two air hoists, three air motors and an air compressor unit. Gardner-Denver Company, Quincy, Illinois.

SINCE 1859

GARDNER-DENVER

THE QUALITY LEADER IN COMPRESSORS, PUMPS AND ROCK DRILLS FOR CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

have been hurt by the difficulty of getting a foot in the door. Virtually every new home in the U.S. is wired for electricity when it's built. But modern homes can, and do, function without gas. The gas people have to sell at least one appliance, right at the start, so that the builder or owner will have a gas line run in and a meter installed.

Furnaces and ranges are considered the best "door-opening" gas appliances. Gas furnaces have grown fabulously since the war. In 1941, the biggest prewar year, just under 200,000 were shipped. In 1950 the total was over 1-million. According to the U.S. Housing Census, in 1950 28.5% of our centrally heated homes heated with gas: In 1940 this figure had been only 7.8%. The popularity of gas heating goes well beyond these figures. Countless home owners have been turned down for gas heat because, due to pipe shortages, the local utility couldn't handle the extra load. Many of these disappointed buyers have put in oil heat, then have been sold an electric range, and have ended up without a gas line coming into the house.

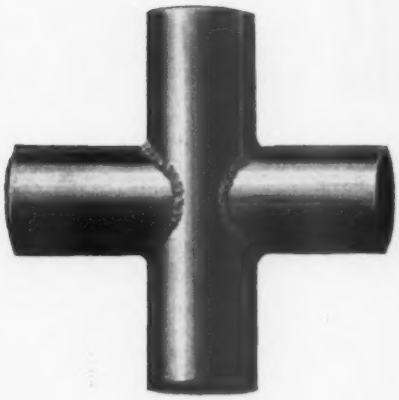
The range, though it opens the door for other appliances, can be a drag on the gas supplier if those other appliances are not sold. Many utilities report that they lose money on an account that uses gas only for cooking. Because the furnace is a big gas consumer, the manufacturers often accuse utilities of pushing the furnaces at the expense of the water heater, dryer, and refrigerator.

• **Fancier**—Another fault that the industry now recognizes is its price consciousness. For years the gas ranges have undersold electric ranges. The manufacturers have found that, buyer's market or no, the public likes a few fancy gadgets, is willing to put down extra dollars for the automatic controls that have long adorned the electric ranges. The result has been—although the gas-range men wince at the term—an upgrading of gas ranges.

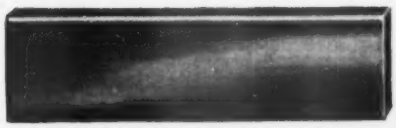
II. What's Being Done

The upgrading (picture, page 57) takes many forms and in the end produces a gas range that looks much like an electric range. The new features, some of which appear on ranges from every manufacturer, include double ovens, swing-out broilers, griddle tops, interior lighting, electric ignition, and removable burners.

Another innovation is the decentralized gas range, whereby the oven may be installed in one part of the kitchen, the burners in another. Two of the leaders in this field are Chambers Corp. and Geo. D. Roper Corp. Chambers recently sold a package of 200 such units to a New Rochelle (N. Y.) housing project, and Roper sold nearly as



add strength



subtract weight

multiply sales

with Armco Welded Steel Tubing

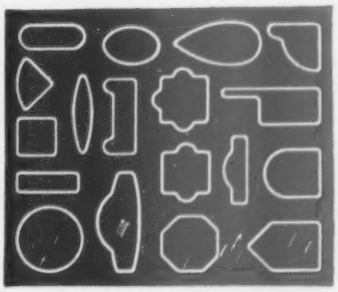
Look to Armco Welded Steel Tubing to lower your costs and boost sales. It gives products a new "expensive" look and often helps *cut manufacturing costs at the same time.*

It is light-walled steel tubing with greater structural strength per pound than solid sections of the same shape. This means simpler product design, fewer shop operations.

Armco Tubing comes in many standard and special shapes. One is *right* for you. It will give your products that clean functional appearance that always stands out on a sales floor.

You have your choice, too, of special types of *steel* in Armco Welded Steel Tubing. One is coated with aluminum to resist heat damage . . . another coated with zinc to resist rust.

An Armco Tubing specialist is ready to work with your designers. Write for further information.



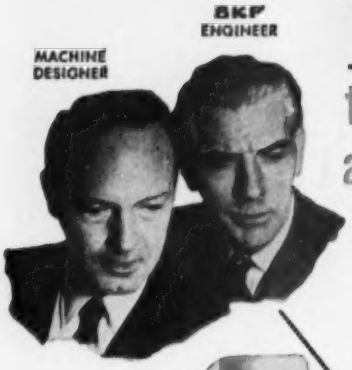
Here are a few of the standard and special shapes of Armco Welded Steel Tubing. Easy to handle, bend and press in manufacturing, tubing will make your product lighter, stronger, more salable.

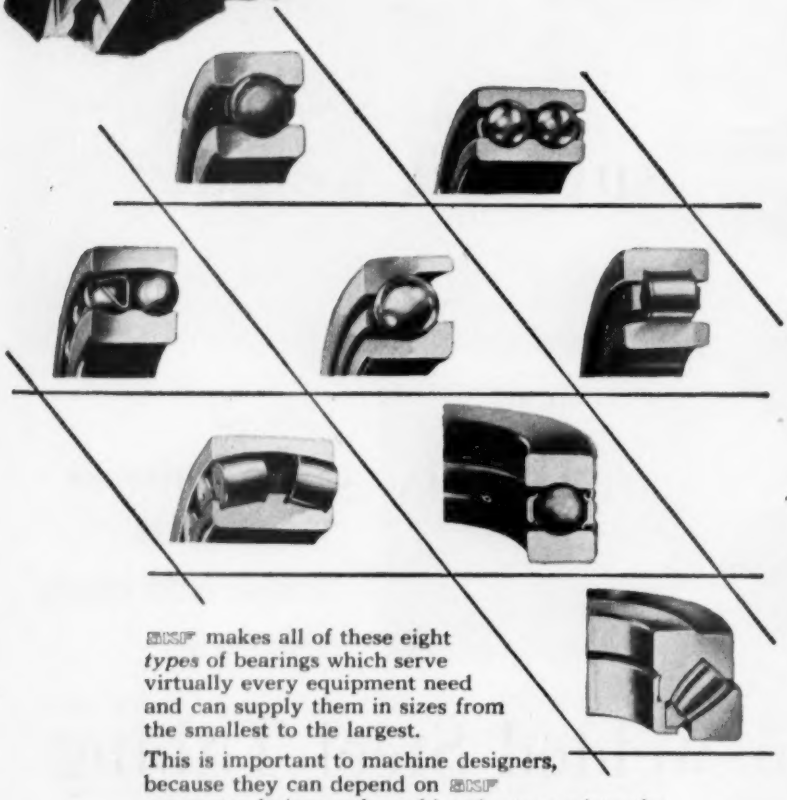
ARMCO STEEL CORPORATION

MIDDLETOWN, OHIO • THE ARMCO INTERNATIONAL CORPORATION, WORLD-WIDE

ARMCO

TOGETHER
they developed this all-purpose bearing line





SKF makes all of these eight *types* of bearings which serve virtually every equipment need and can supply them in sizes from the smallest to the largest.

This is important to machine designers, because they can depend on SKF recommendations to be unbiased – to consistently put the right bearing in the right place.

The completeness of this SKF bearing line is both a result and a cause of the remarkable engineering co-operation that exists between SKF and machine designers in every industry.

When today it's pretty hard *not* to buy *good* bearings, industry appreciates the important extra of experienced engineering help from SKF Field and Home Office engineers. 7304

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
manufacturers of **SKF** *and* **HESS-BRIGHT** *bearings.*

SKF®
BALL AND ROLLER BEARINGS

many to a plush Chicago apartment house.

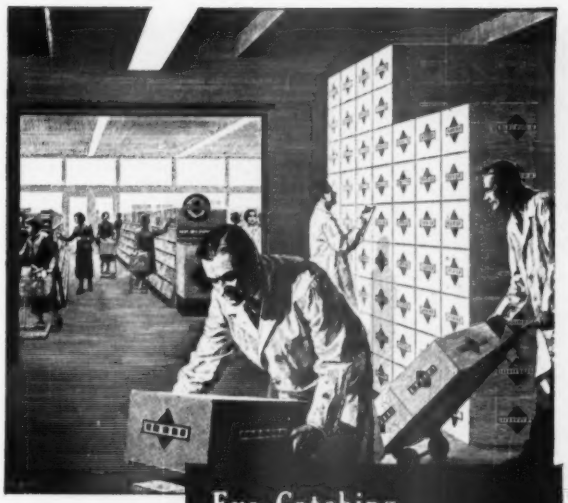
Upgrading hasn't been confined to ranges. Two-temperature water heaters simultaneously produce hot water for dish and clothes washing (at 180F) and for personal use (at 125F). Gasmen figure this appliance will be a difficult one for the electric crowd to match. High-temperature heating by electricity is expensive, and, say the gasmen, the recovery rate of electric water heaters is far below that of the gas type.

• **Wider Lines**—Gas appliance makers have been broadening as well as upgrading their line, heading—as far as is possible—in the direction of a complete line. Most prominent of the relatively new appliances are dryers, air conditioners, and indoor incinerators. All are doing well, although in volume they fall well below the better-known appliances. Gas dryers are coming up fast. According to Electrical Merchandising, 170,000 were shipped last year, as compared with 440,000 electrics.

Dryers and incinerators are particularly welcome to the gas industry because they are year-round gas consumers, and gas air conditioning equipment is equally welcome because it uses fuel during the low-demand summer period. A principal problem of the utilities has been achieving something approaching a balanced load. Gas heating has pushed up winter demand sharply. But if a utility contracts for a lot of gas in the winter and only a little in the summer, the pipelines charge them at a rate higher than for uniform all-year-round supply. Right now, they buy more than they need in the summer and less than they need in the winter. The summer surplus is stored underground for winter needs. Air conditioning, by raising summer demands, would reduce summer storage to some degree.

• **Test Lab**—Evidence of the rapid expansion in the number of gas appliances is found at the American Gas Assn.'s testing labs. Every member of GAMA belongs to the AGA and has the use of the testing labs, a self-policing organization set up to judge whether appliances conform with industry standards. In the last year the testing labs have doubled their business, and expect to double their facilities this year. Applications for tests must be made six months in advance. One cause of this bottleneck is the boom in gas dryers: Three years ago, five companies were making them, today there are 43 companies in the business.

AGA and GAMA have long worked together, but when both the utilities and the manufacturers suddenly realized that appliance sales were lagging behind gas expansion, they decided to step up their cooperative effort. A year ago, committees made up of men from both associations began to study how they



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Fast-Packing
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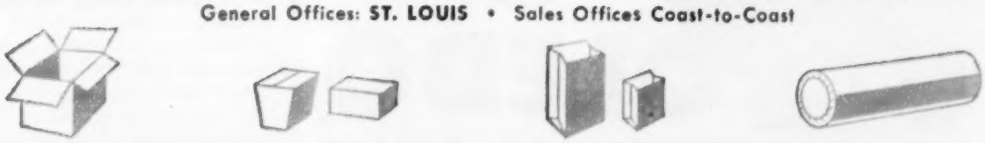
Gaylord's famous *quality control*, seen and unseen, adds to the value of every Gaylord Box. For information and assistance with your packing problems, contact the Sales Offices listed under "Boxes (Gaylord)" in the classified section of your phone book.

GAYLORD CONTAINER CORPORATION

General Offices: ST. LOUIS • Sales Offices Coast-to-Coast



CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT BAGS AND SACKS • KRAFT PAPER AND SPECIALTIES

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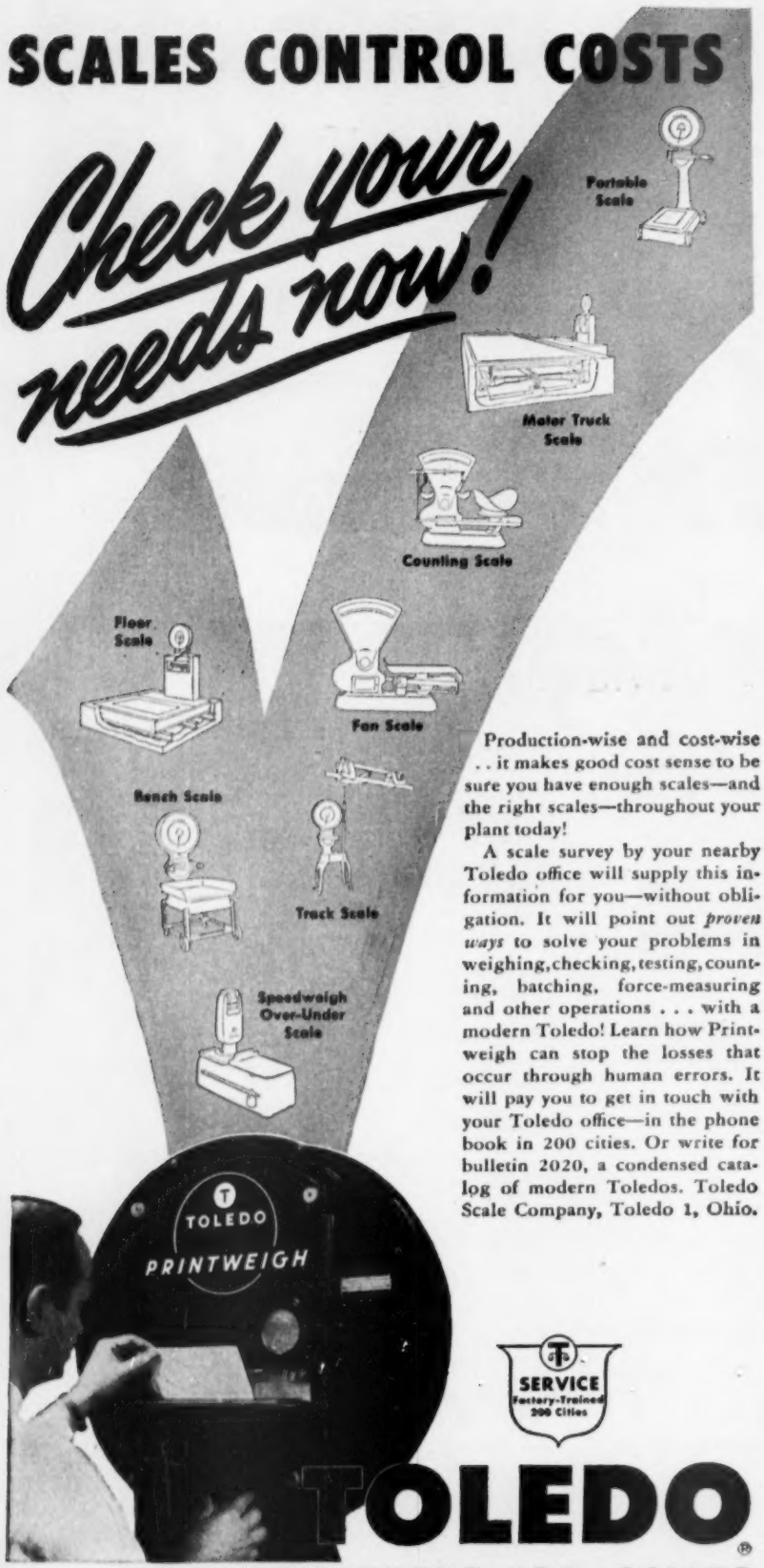

Production-wise and cost-wise . . it makes good cost sense to be sure you have enough scales—and the right scales—throughout your plant today!

A scale survey by your nearby Toledo office will supply this information for you—without obligation. It will point out *proven ways* to solve your problems in weighing, checking, testing, counting, batching, force-measuring and other operations . . . with a modern Toledo! Learn how Printweigh can stop the losses that occur through human errors. It will pay you to get in touch with your Toledo office—in the phone book in 200 cities. Or write for bulletin 2020, a condensed catalog of modern Toledos. Toledo Scale Company, Toledo 1, Ohio.

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HEADQUARTERS FOR SCALES

could help each other, and the dealers who serve them both.

Now AGA and GAMA are moving into what they wish had been started years ago—a broad-based promotion program. Actually, the utilities have one program, the manufacturers another, but the two programs are practically the same. Each program adds up to one basic idea: to make sure the gas industry doesn't lose any more ground and, if possible, to regain the ground already lost.

Big Store Performance In 1952 Called Drab

Department stores had little to cheer about in 1952, says Dr. Malcolm P. McNair of the Harvard Business School. "A repetition of the drab performance of 1951"—that's the way he described their showing at the Controllers' Congress of the National Retail Dry Goods Assn. this week.

For the third year in a row, department stores dragged their feet compared with total retailing. They showed only a 2% gain in dollar volume, against 3.6% for retail stores.

• **Markdowns**—Because the big stores didn't take the whacking markdowns in 1952 that they suffered from in 1951, their gross margin was a bit better—35.8% of sales against 35.3% in 1951. That was enough to bring their net gain before taxes up to 5% of sales. But then Uncle Sam swooped in, and left a final gain of only 2.4%—just a shade above the 2.3% of the year before. This makes 1951 and 1952 the poorest years profitwise since 1938.

Besides taxes, they faced another obstacle in costs that refused to stay down. Some 18.25% of sales went to fill payrolls—the first time since 1938 that this item had gone higher than 18%.

The picture wasn't wholly black, as McNair saw it.

A hopeful sign was that employees apparently put more steam into their working time. There were more dollar sales per man hour, more sales per selling man-hour.

Finally, if you look at the performance of department stores on a purely dollar-and-cents basis, net earnings—not as a percent of sales—were up 6.5% above 1951, thanks mainly to that increase in total dollar sales.

• **Branches**—McNair found some interesting data to back up the continuing trend toward setting up branch stores. Department stores that had $10-million or more business, and that had 15% or more of their business in branches, earned better profits than companies of the same size that had no branches or made less than 15% of their sales in branches.

SYNTHANE —making bigger payloads pay off

Synthane bushings, spacers, and bearings in the landing gear of this giant of the skies share the landing shock loads of twenty-five tons. But Synthane parts have many virtues in addition to their ability to withstand the jolts of heavy landings.

Parts made of this hard-working laminated plastic are unaffected by oils, and are dimensionally stable. They resist abrasion, and weigh half as much as aluminum.

Because Synthane is so easy to machine, it is appropriate for fair-leads and cable-sheaves in control systems. Because it is an excellent electrical insulator, you will find it at work in engine ignition systems, flight instruments, automatic controls, and radar sets. Because Synthane is light and corrosion-resistant, it's used for the flapper valves in fuel cell baffles.

Synthane has all these properties and many more. It might be a good material for you to try. Start by sending for the complete Synthane Catalog. Synthane Corporation, 1 River Road, Oaks, Penna.

Synthane . . . in Aviation

A Propeller brush block base
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F Propeller brush block base

Synthane-one of industry's unseen essentials

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LAMINATED PLASTICS

Replaces blackboard. Use large, clean paper pads—which we stock. This versatile all aluminum easel is also equipped for showing turnover charts or cardboard charts of almost any size. Rugged yet light in weight. Folds like magic for easy carrying or storage. Thousands in use by big industry everywhere.

Visualize your ideas for better understanding.

Model A302 shown above $46.50 F.O.B. Stamford

Other models available. Write for free literature.

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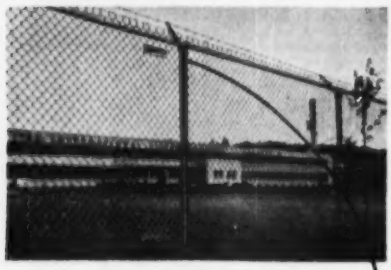


***The line between Production and Destruction often* CARRIES THIS FAMOUS SIGN** ANCHOR FENCE

Anchor Fence provides a sure way to guard your production—your plant, equipment, vehicles and employees—against destruction by thieves, vandals and agitators.

But be sure to look for the orange-and-black plate that identifies all genuine Anchor Fence. It's your assurance of the finest in industrial fencing.

WRITE for Anchor's fact-packed catalog to: ANCHOR POST PRODUCTS, INC., 6975 Eastern Avenue, Baltimore 24, Md.

Anchor Fence

Division of ANCHOR POST PRODUCTS, Inc.

ROYAL ARMS above this London shop means it rates the coveted "by appointment . . ."

The Seal of Royal Use

When a country gets a new queen, a lot of things happen. New stamps are printed. New coins are minted. In Britain's case, some new merchants will break out with the royal arms over the door and the magical words, "By appointment to Her Majesty Queen Elizabeth II."

The emblem—always staidly displayed—means that the merchant is a holder of one of the British businessman's most coveted awards: the royal warrant. He has won it by being a major supplier, for at least the preceding three years, either to the reigning monarch, or to a member of the royal family, or to a department of the royal household.

Today nearly 1,000 businesses are authorized to wear the emblem. The list includes products well known to the U.S. householder: Crosse & Blackwell, Huntley & Palmers biscuits, Haig scotch, Kent brushes, Yardley perfumes.

• **Prestige**—These—and many other companies—reap an immense prestige that undoubtedly counts heavily with customers. The British think the prestige carries weight particularly in the U.S., the "land that loves a lord."

In addition, there are hundreds of firms on the list to whom the prestige is of secondary interest. These are the small tradesmen who rely on the purchases of the royal family for most of their bread and butter. Since the royal household will spend £702,000 (nearly $2-million) this year on its various households—Buckingham and St. James Palaces, Windsor Castle, Sandringham, Balmoral, Holyrood House—there's quite a pie to be divided.

There are plenty of routine occupations—window cleaning, piano tuning—represented on this list. Others read strangely in U.S. cars: a reed thatcher for the royal estate in Norfolk, chimney sweeps, bagpipe makers.

Naturally, most of the companies are British. But it's a pretty cosmopolitan list, including 16 French champagne and brandy merchants, several Indian metalsmiths, haberdashers in Calcutta and Nairobi, a distiller in Ontario. Only one U.S. address is recorded—Frank Partridge, Inc., a New York fine arts dealer.

• **U.S. Angle**—An American, though, will spot many familiar names, subsidiaries or affiliates of U.S. companies: Esso, Ford, Heinz, International Harvester, Socony-Vacuum, Singer Sewing Machine, Steinway, and Hoover—the latter sporting a warrant styled "Electric suction sweeper manufacturers" to the late Queen Mary.

Often a firm has a warrant for only one of its products. Esso Petroleum Co. is styled "Purveyors of motor spirit," while Vacuum Oil Co., Ltd., is "Supplier of lubricating oils." Jaeger Co., Ltd., known the world over for men's and women's fine woolens, has the distinction of being "Purveyors of horse clothing to the late George V."

• **The Grantors**—Granting the award is the business of the reigning monarch. That's why right now there is plenty of discreet speculation as to who will get the first royal warrants from the new queen. Technically, Queen Elizabeth II wouldn't be able to grant them until she has been queen three years—or until February, 1955. But many tradesmen have been supplying her household for more than three years.

The king or queen usually lets his consort make the grants, too, as well the eldest son or heir apparent. So

there are still some emblems around that were granted by the Duke of Windsor when he was Prince of Wales—and some that date back to Edward VII. But King George VI was sparing in his use of this prerogative; he never did let Elizabeth II grant any while she was Princess Elizabeth. Today only the Queen Mother has the right.

• **The Grantees**—Actually, it's not a company that gets the award; it's an individual—a tradesman, an official of a concern. He holds it for 10 years or until he or the monarch dies. If he dies, the royal family may pass it on to another member of the firm, provided the royal family is still patronizing his wares. If the monarch that granted it dies, the holder usually can go on using it, though he generally restyles the wording to say, for example, "By appointment to the late King George V."

Sometimes the warrant comes to a fortunate merchant without his doing anything about it. Usually, though, there's a ritual to go through: A merchant puts in an application to the appropriate department of the royal household—the Privy Purse, the Master of the Household, the Lord Chamberlain, or the Royal Mews (stables). The Lord Chamberlain is generally responsible for checking the merchant's credentials. Then the Palace must approve the design he will display.

• **Good Behavior**—Once the merchant has his warrant, he guards it in a thick cloak of discretion. He can lose it if his company becomes bankrupt, is sold or amalgamated, changes its name or the character of its wares. But probably the direst disgrace would be to lose it for any breach of business ethics.

Precise rules of etiquette govern the display of emblem. Its use is limited to business premises, official letterheads, delivery vans bearing the head office address, labels. It may appear in advertising—but only if the ads breathe no other hint that the company enjoys royal patronage.

Such etiquette is a relatively late development in the long, long history of the bestowal of royal warrants. The custom goes back to the ancient days when the royal estate was practically self-sufficient and tradesmen serving the royal family were virtually part of the royal staff. These tradesmen were probably the first royal warrant holders.

Then, along toward the end of the 17th century, the royal family began to buy from tradesmen in the towns. No one knows just when this started; earliest mention of such an award is in the Public Record Office in London in 1692. Then one Thomas Herbert was granted permission to style himself "Their Majesties' Clockmakers in Ordinary."

• **Unseemly Goings On**—With the reign of Queen Victoria—and the growth of the industrial revolution—warrants really came into their own. The spirit of ugly commercialism reared its head.

In the late 1870s, for instance, a soap manufacturer didn't hesitate to advertise: "If you wish to use the same soap as the queen, ask for Bentley's." A newspaper advertisement once showed a very royal Queen Victoria presenting Edward VII (then Prince of Wales) and Alexandra, her new daughter-in-law, with a package clearly labeled Mezawattee Tea. One firm was even so brash as to reprint in its advertisements an order for a case of Imperial pints of Raggett's Nourishing Stout for Her Majesty. Even as late as 1911, some advertisers were still getting away with what would be considered cardinal breaches of propriety now. When George V was crowned, the London Daily Mail carried a full-page, front-page ad adorned with the Imperial State Crown. The ad read: "Crowned with success. Throughout the British Empire, Bird's Custard is as welcome at every table as King George would be."

• **Self-Restraining**—It got so bad that in 1907 the warrant holders banded together in a voluntary society to guard against such misdeeds. This is Royal Warrant Holders Assn., a group that quails at seeing its name in print. It spends most of its time damping the curiosity of the press.

The association has done its work well. It hasn't recorded an instance of a firm that lost its royal warrant for breach of propriety. Warrant holders clam up tight when they are pressed for information on their elevated status. They may not even make an announcement that they have received the warrant; its appearance over the window is the only notice the public gets.

There's a shrewd reason for all the hedges that surround the emblem—beyond the respect due to the royal family. The intent of the warrant is to perform a real service to British industry. It does not necessarily mean the best, or even the most expensive product. But it does guarantee ethical trading.

Nowadays the decorum is so marked that you would hardly think the association would find work to do. There's such an air of dignity around the warrant that some holders refuse to admit that they benefit commercially from its display. "It is an honor that is conferred on various merchants, who deeply appreciate the honor," explains a British representative of a warrant holder in this country. "That's all. It's purely a tradition—a traditional thought," he concludes—on a strictly no quote basis.

The Day the Cake Fell!

Suppose all the nuts, bolts and screws were suddenly removed from a sparkling new range. A great deal more than a cake would fall.

Yes, fasteners *are important*—and worth the time and care in selecting those that are "just right" for your product. Lamson & Sessions is supplying most of the appliance manufacturers with bolts, nuts and screws—each type engineered to meet individual requirements.

Regardless of the product you manufacture, it will pay to take a critical look at the fasteners you are now using and ask yourself these questions:

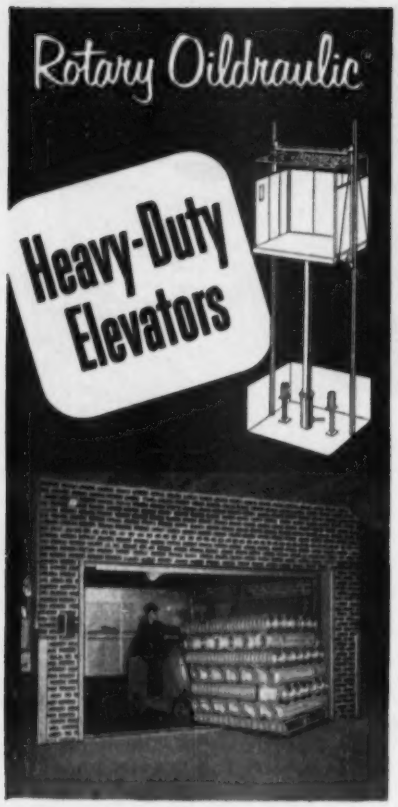
Can I save money by replacing a "special" with a "standard"? Or will the use of a "special" simplify production, thereby saving time and perhaps materials?

Whatever your problems, check with Lamson & Sessions—one of the few manufacturers offering a *complete line* of fasteners teamed with expert engineering service.

THE LAMSON & SESSIONS CO.
1979 W. 85 St., Cleveland 2, Ohio.
Cleveland & Kent, O. • Birmingham • Chicago

Lamson & Sessions

The home of "Quality Controlled" fasteners



Most economical type for rises up to 50 feet

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- New Oildraulic Controller
- Capacities up to 100,000 lbs.

Over 75,000 Oildraulic elevators and lifts are now in use . . . backed by Rotary's coast-to-coast organization.

Rotary **Mail now for new catalog**

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Memphis 2, Tenn.

Send catalog on Rotary Oildraulic Elevators to:

Name_____

Address_____

States Drop Tax on Chains

Florida is No. 15 to get rid of anti-chain store tax . . . Woolworth will expand . . . nets are pushing daytime TV . . . New Orleans paper wins suit . . . whiskey truce.

The Florida legislature has just written a footnote to a bygone economic era. Last week the state abolished its chain-store tax law.

Florida was one of the 29 states that have enacted some kind of tax aimed at multiple-unit retailers since the early 1930s. These taxes have taken various forms. The usual one: a graduated tax that upped the tax per store as the number of stores increased.

• **In Bad**—In Florida, for example, if you operated from two to five stores, you paid $50 annually per store. But if you operated more than 50 stores, the rate was $400 per store. The Florida law had a special hook in it missing in most others: The rates were based on the number of stores owned, regardless of where, with the result that a big national chain owning only a few stores in Florida would pay the $400-per-store rate on those few stores.

The intent of the Florida law and the others was pretty obvious. Though legislators had revenue in mind, they were chiefly interested in cutting the chains down to size. Most of the laws were passed when the chains were in their greatest period of growth and were out of favor with businessmen and consumers.

• **Opposite Effect**—The laws never did what they were supposed to do. The chains prospered anyway. In fact, the chain-store tax had an ironic effect; it helped make the chains more efficient, spurred them to slough off their smaller, uneconomic units and to concentrate on fewer, larger ones.

Today, with chains and independents locked in a status quo as regards their share of the market, the steam has largely gone out of the anti-chain store movement. Some of the state tax laws have been declared unconstitutional by the courts, others have been repealed, still others have been voted out. Only 14 states still have the tax.

Woolworth's $35-million

F. W. Woolworth Co. is an example of a pioneer in the chain-store business that rested too long on its laurels.

Back in 1939, the Woolworth variety chain did an annual business of $318.8-million and was fifth biggest in volume among all U.S. chains (including food). Last year it was doing a $684.1-million business, but had dropped to seventh among the nation's chains. Its gain for those years (123.5%) was mediocre compared with those of the chains that passed it—J. C. Penney's 292.5% and Kroger's 332.2%.

Now Woolworth is making a more determined effort to catch up. It has just announced the negotiation of a 20-year loan from Equitable Life Assurance Society of the U.S. for $35-million. The money will go into expansion and modernization. Last year the company spent $18.5-million for the same purpose.

• **Companions**—Woolworth is not the only variety store chain that has fallen behind in the merchandising parade. Variety stores in general have been slow to upgrade their stores and stocks along with the upgrading of the economy. And they have suffered some from the inroads of the supermarket in such lines as candy, toiletries, glassware, kitchen utensils. A. L. Cornwell, president and board chairman of Woolworth, took note of this when he said: "Competitive conditions at present are much more acute than at any time for many years."

So Woolworth is going to build new stores in new locations, add moving staircases and air conditioning to older ones, enlarge still others, and brighten things up all around.

Self-service? Woolworth has been trying it out (BW—Nov.8'52,p54) but isn't sure yet. A spokesman calls its efforts "experimental; not conclusive."

TV Taps the Daytime

Watch for some new developments in daytime television.

This week the affiliated stations of National Broadcasting Co., Inc., trooped into New York for their annual get-together with the mother network. One of the biggest items on the agenda: a plan that will plug that gaping hole in NBC's weekday daytime scheduling. There's nothing on NBC between the time Ding Dong School goes off at 10:30 a.m. and Break the Bank comes on at 3 p.m.

A year ago this wouldn't have been unusual. No one thought much of daytime TV. But since then the audience has grown. And the high cost of television has driven advertisers to all lengths to cut costs, and has made the networks scramble to find ways of offering economy packages (BW—May23 '53,p43). Daytime TV rates are a lot lower than night rates.

• **Forerunner**—NBC is actually a little

late getting on the bandwagon. Last fall its chief rival, Columbia Broadcasting System, really started promoting daytime TV.

Today it has full daytime programming from the time Arthur Godfrey's show comes on at 10 a.m., right through the afternoon and evening. CBS already has sponsors for most of these shows and, according to a spokesman, is confident that "by the fall an SRO sign will be out."

It looks as though daytime TV is finally coming into its own, now that NBC is getting on the bandwagon, too.

Decision for Papers

Can an owner of two newspapers refuse advertising if the buyer doesn't take space in both papers? The government says it's illegal. But this week, the Supreme Court disagreed.

In a five-to-four decision, the court upheld New Orleans Times-Picayune Publishing Co. against charges brought by the Dept. of Justice that the paper's ad policy violated the antitrust laws. Justice Tom Clark wrote the majority opinion, which threw out the government's charge that the publishing company's "forced combination" contracts for the sale of newspaper advertising violate the Sherman Anti-Trust Act.

• **Reversal**—The decision reversed a ruling won by the government in a Louisiana federal district court (BW—Jun.7'52,p50). It puts a difficult burden of evidence on the antitrusters in any future case involving the unit advertising arrangements common in the newspaper industry. About 180 other newspapers use the same system.

Under the system used by Times-Picayune, classified and national advertisers can get space in the leading paper in the area, the Times-Picayune, only if they also take space in the company's afternoon paper, the States.

The Justice Dept. filed its suit in 1950, charging that the company deprived advertisers of their freedom of choice and took business away from an independent afternoon competitor, the Item.

Clark now says that the evidence did not establish the violations charged. He reasons that since the Times-Picayune was accused of tying sales to buyers of ad space, dominance in the advertising market—not in readership—"must be decisive in gauging the legality of the unit plan."

Clark's lengthy 32-page opinion apparently attaches a great deal of weight to the fact that the Times-Picayune actually copied its unit plan from the Item, which until 1941 published both a morning and an afternoon paper.

Clark points out that the Supreme Court hasn't ruled that unit advertising schemes are lawful in any and all

The sugar in your coffee, perhaps the coffee too, may well have headed for your table with the help of a Thew-Lorain Crane. That's how close versatile Thew-Lorains are to your everyday life. They had something to do with the clothes you wear . . . the food you eat . . . the car you drive . . . the road you drive on . . . even the coins in your pocket. You'll find Thew-Lorain shovels and cranes behind the scenes in almost every industry. And wherever they work, Lorains cut costs, boost production and thus contribute to a living standard that is the marvel of the world. Sugar . . . steel . . . or sand . . . and scores of other materials can be handled profitably with Lorain crane power. Thew-Lorain is the world's largest builder of commercial size power shovels and cranes . . . and offers the world's most complete selection. For lower material handling costs . . . greater model selection and more machine features . . . check with your local Thew-Lorain Distributor.

THE BIGGEST NAME IN POWER SHOVEL-CRANES... THEW LORAIN

THE THEW SHOVEL CO., LORAIN, OHIO

circumstances. It has merely decided that the government, in the Times-Picayune case, proved neither unlawful effects nor facts showing potential harm in the future.

Distillers Compromise

The liquor industry has reached a compromise on the Saylor bill.

That is the controversial bill that would get whiskey distillers out from under the huge tax bill pending on their aging whiskey stocks. The law now requires that they pay the excise taxes when the stocks in bond reach eight years. The Saylor bill would extend the tax-free period to 12 years.

But some whiskey distillers fought it out of fear that this would involve them in a ruinously expensive "battle of the ages" (BW—Mar.28'53,p33). So a few days ago the industry spokesman, the Distilled Spirits Institute, adopted his compromise unanimously:

Increase the tax-free period to 12 years. But don't allow distillers to claim anything over eight years on the label or in advertising.

Will it work? Industry observers wonder what would happen if a distiller challenges the constitutionality of a law that prevents him from claiming that his whiskey is a 10-year-old when it really is.

MARKETING BRIEFS

Shoe manufacturers are plowing deeper into retailing (BW—Jul.7'51,p116). Now Brown Shoe Co. has gained control of Regal Shoe Co. This brings Brown some 100 outlets, mainly in the Northeast, for men's and boys' shoes. Brown's earlier purchase of the Wohl chain put it into the retailing of women's shoes.

•

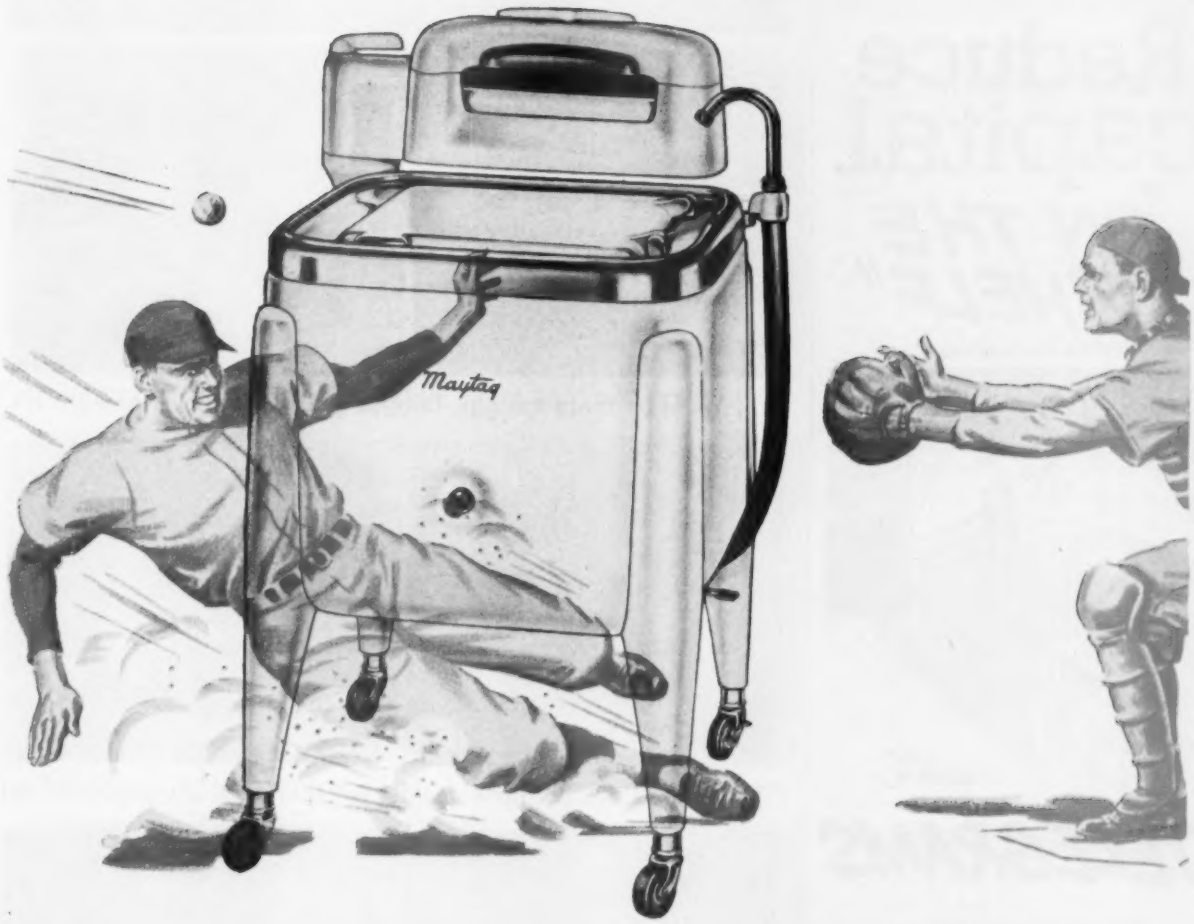
Biggest convention any company ever put on for dealers and distributors is how Philco describes its June meeting in Atlantic City. The 7,500 people expected will put this ahead of Philco's supercolossal show three years ago (BW—Jul.1'50,p22).

•

The distribution formula pioneered by Woman's Day and other magazines sold in supermarkets hasn't worked with variety stores. Two casualties have just occurred: Today's Family, published by Ideal and distributed through Woolworth (BW—Sep.13'52,p48); Family Life, published by MacFadden and distributed through other variety chains.

•

S. S. Kresge, big variety chain, has a new president. Franklin P. Williams, vice-president for the past six years, succeeds D. C. Fisher, who is retiring.



Rubber "SQUEEZE PLAY" scores in Maytag Washer

A "pressing" problem existed when the Maytag Company set about designing a wringer for their washing machines. Either the wringer squeezed too hard . . . pressing hundreds of wrinkles *into* the wash, or it gently passed the wash through . . . unwrinkled . . . and sopping wet!

In search of a happy medium, Maytag called in Firestone Techni-Service engineers. The problem was quickly and efficiently solved.

The Maytag wringer employs a standard, hard-rubber roller to provide the pressure necessary to squeeze wash dry. And a roller specially compounded of soft rubber to provide wrinkle-smoothing "give". Happy housewives report that this rubber "squeeze play" has speeded up laundering chores greatly . . . eliminated time-consuming re-wringing completely!

If your organization is faced with an equally vexing problem, why not avail yourself (at no cost to you) of Firestone Techni-Service facilities. Simply clip out and mail the attached coupon.

HAVE YOU A PROBLEM?

☐ **DO YOU NEED A COMPOUND TO:**
Cushion, protect, bond-to-metal, waterproof

☐ **WOULD INCREASED RESISTANCE TO:**
Oil, acid, abrasion, aging, permanent set, temperature help make your product better?

☐ **WOULD ELIMINATION OF:**
Vibration, noise, shock, benefit your business?

If so, we suggest you check your problem, fill out this coupon and let our Techni-Service engineers find the solution.

Firestone Techni-Service, Dept. 14A, Akron, Ohio

Name_____ Position_____

Company_____

Address_____

City_____ Zone___ State_____

Firestone Techni-Service pays off again

Enjoy the Voice of Firestone Monday evenings on NBC Radio and Television

Reduce capital "ON THE SHELF"

with

TELEGRAMS

No need to tie up cash in excessive inventory. Keep stocks tuned to customer-demand level the modern, fast-moving way. Order goods by Telegram!

Here's how Telegrams do the job!

WESTERN UNION

AVOIDS CASH TIE-UP

BY ORDERING BY TELEGRAPH TO REPLENISH OUR STOCKS, WE ARE ABLE TO REDUCE OUR INVENTORIES, KEEPING THEM RELATIVELY LOW AND AVOIDING NEEDLESS TIE-UP OF CASH*.

WESTERN UNION

KEEPS STOCKS DOWN

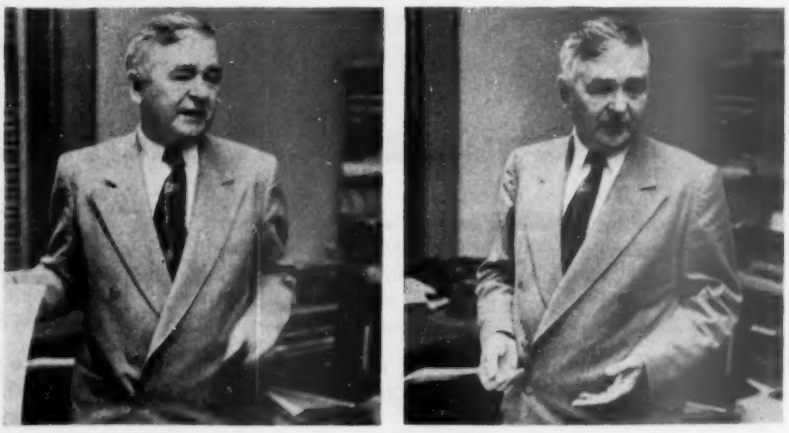
WESTERN UNION TELEGRAMS HAVE HELPED US TO SERVE OUR CUSTOMERS PROPERLY, KEEP OUR STOCKS DOWN, THEREBY SAVING US MONEY AND INCREASING OUR VOLUME*.

*From letters in our files. Names given on request.

WESTERN UNION

". . . We'll be there tonight, Doc, to get the program going. It's

"You know, those are good people. All they need is someone to put



"That's the way we're going to grow here in Arkansas . . . building

Ham Moses: The Only

This week C. Hamilton Moses (cover) is campaigning in Wall Street—getting ready to sell $18-million of Arkansas Power & Light Co. bonds.

For AP&L's 64-year-old chairman, it won't be too tough, even in a slow market. For one thing, he can remember when he paid 8% for money—and was happy to pay the price. For another, Arkansas and Ham Moses have something to report to Wall Street.

• **Far Cry**—Just 10 years ago Ham Moses was trying to raise money in Wall Street for AP&L's postwar expansion. Then the bankers all but told him that, coming from Arkansas, he might as well have stayed home. They made painfully clear what it meant to come from a backward state. The financial fraternity had plenty of stories about Arkansas hillbillies—and with every laugh they chipped a bit off AP&L's credit rating.

At that time Ham Moses not only

a fine town. All you need is to get those people started."

a little faith in them, to put a little fire in them."

up Arkansas people. We've got to. It's the only way we can go."

Way Out Is to Grow

wanted money; he wanted industrial companies to keep the wheels rolling in the wartime industries.

Wall Street had an answer for him on both counts:

• You can have the money, but it will cost you. Your company's record is good, but investors simply don't like to put money into a state like Arkansas—the 47th richest state.

• You probably can't have the industrial plants. Industries simply don't want to send their people into communities where the streets are not paved, where the schools are backward, where churches are falling down, and where recreation and community facilities are mostly missing.

• **Groundswell**—While Wall Street was giving Moses this story, there was a groundswell building up in Arkansas. People wanted to know: What can we do to bring back the Arkansas boys in service? Where can we get them jobs?

There was real urgency behind the question, for Arkansas was losing people. Not only were many of the bright university graduates going, but the field hands were rebelling, were leaving by the thousands for Detroit and its war plants.

• **Wanted: A Revolution**—What Arkansas needed, as Moses saw it, was a revolution—a shaking-up that would reach into the mind of every cotton hand following a mule. For Arkansas people had a lot to work with—delta land so rich that you go down 30 ft. through topsoil to dig a well, hill pastures that make Texas ranches look fossilized. In fact, as Moses added it up, they had everything they needed to work with except faith in themselves. Arkansas people were joked about so much that when they went to a Chicago hotel they'd register as coming from Memphis, Tenn.

Now, Moses is telling bankers that Arkansas is having its revolution—meaning that these people who have been sleeping for a hundred years are finally carrying through a social revolution on their own steam. But a lot of others lay it to Moses. "It was Mr. Moses started it," they say. "It was Mr. Moses and the time and talent he's poured in that did it."

I. Politician, Businessman

C. Hamilton Moses is a rarity—a politician turned businessman. He has Arkansas in his bones. He was born in Hampton in south-central Arkansas, graduated from Ovachita College, won a year at Tulane on the strength of his graduation-night oratory, used it to start studying law. Back in 1911, law wasn't a rewarding occupation in Arkansas. Moses turned to politics, served as secretary to three different governors.

He made his mark as a young lawyer when he co-authored a digest of the laws of Arkansas in 1918-20. It was about that time that Harvey Couch, who originally put together the power company, hired him as the company's counsel. When Couch died in 1941 the board elected Moses president of the power company.

• **They Like Him**—Moses is a Baptist, likes to tell stories and quote the Bible with all the fervor of a preacher. He seems easy-going; even at 64 the lines in his face are few. In 1941 he had his hand in a lot of interests—private, public, and business—outside the power company's, and he still does. He does a little politicking—the power company's legislative dinner for all members of the Houses and other political leaders is a highlight of each session.

Above all, he likes people, and they like him. Arkansas politicians in town after town will tell you: "No one but

The idea that was piped all through industry!

Lengths of Republic Electric Weld Casing are rapidly joined together and lowered hundreds or thousands of feet into an oil or gas well to line it with tough steel—to protect its walls against the tremendous pressures that otherwise might cause collapse of the hole.

TWENTY YEARS AGO, Republic engineers and metallurgists gave the oil and gas industries a *new kind* of steel tubular product. It was electric weld pipe—casing, tubing and line pipe—with advantages of uniformity never before attained in mass production.

This new pipe was made by a process of electric resistance welding *developed* by Republic Steel. It was uniformly round, uniform in wall thickness and uniformly strong throughout every inch. These qualities have improved pipe performance far beyond the oil industry, in fact—throughout all industry. Millions of feet of casing and tubing and thousands of miles of line pipe in service have proved the dependability of the process.

Since its beginning, Republic Steel has kept alert to the changing needs of steel users. It has pioneered, not only in steelmaking, but in the fabrication of steels. Out of this has come Republic's present-day 3-FOLD SERVICE FOR STEEL USERS:

1. The production of the best possible steels and steel products in ever-increasing variety.
2. The recommendation of specific steels and steel products based upon thorough study of the need.
3. The assistance of trained engineers and metallurgists whose job it is to see that you get the results you want from Republic Steel Products.

This does not mean we make any pretense at knowing all your answers. But we do know steel—and we fabricate steel into many products. From this dual experience, we have been able to assist many customers to more profitable results. Perhaps we can help you, also.

REPUBLIC STEEL

REPUBLIC STEEL

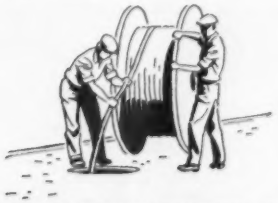
WORLD'S WIDEST RANGE OF STEELS AND STEEL PRODUCTS

REPUBLIC STEEL

Do you know that Republic Steel makes these products?

BERGER STEEL DESKS AND TABLES—In creating this new desk and table line, Berger designers discarded all outmoded notions of desk construction . . . and fashioned an entirely new concept of working comfort for you. "Eye Comfort" tops . . . plenty of leg room . . . easy-gliding drawers . . . and many other features are yours in a variety of styles, sizes and finishes.

ELECTRO PAINTLOK SHEETS—The zinc-plated steel sheets that are chemically treated to *take* paints, lacquers and synthetic enamels *smoothly*, and *hold* them for years even under hard service and severe exposure. Even if the painted surface becomes scratched or broken in use, the tight zinc coating retards corrosion.



NILES FLANGED STEEL TRAVERSES—Bolt a head on each end, and you have a strong, sturdy cable reel up to 20% lighter in weight—and so strong that they have given up to sixteen years' service without refinishing or major maintenance.

Republic Steel Today:

ore mines here and abroad; lake and ocean-going ships; coal mines; furnaces and huge steel mills, North and South; steel fabricating plants across the Nation and in Canada; sales offices in principal cities; PLUS 70,000 men and women working together to produce steels and steel products to help build and protect a stronger America. Republic Steel Corporation, General Offices, Cleveland 1, Ohio.

Moses could get 150 out in this town for a breakfast, but he'll do it every time."

Adding all this up, businessmen figured that Ham Moses was in a position where he could sit back and enjoy life when he took over the power company. There was only one hitch: The company began to grow.

II. Building a State

In 1940 the whole AP&L system had a capacity of only 107,200 kw. By 1944 demand was two and one half times that much; the war was pushing it higher fast; and the company was importing power in huge blocks from other companies in the Middle South.

That was about the time when Ham Moses began his Arkansas Plan. Just from the standpoint of business, he was driven to it. His company had all the resources it needed—cheap natural gas, plenty of hydropower, coal across the border in Oklahoma, an area with lots of fertile farmland and plenty of minerals. All it needed was customers. If it was to grow, if it was to continue to put out power at wartime peak rates, it had to build the people of Arkansas along with its own facilities.

• **Plans**—AP&L had 621,000 kw. of capacity last year—almost six times what it had in 1940. By the end of 1954, with the construction program already under way, it will have more than 1-million kw.

As Moses puts it, "With that much plant coming on, we've got to grow. It's the only way out. We've got to build Arkansas because you can't be any more prosperous than the people you serve."

III. The Arkansas Plan

How do you build a state?

Moses' theory: "You have to sell people on themselves. You have to show them they can do things on their own.

"You've got to put a little leadership in. But, when you come right down to it, what you're doing is to put a little fire into them."

Over the years, Moses has carefully developed a method of doing just that. It's a blend of ideas and methods that adds up to a highly effective community relations program.

• **Prime Mover**—Moses works town by town. He usually starts a community project off himself—speaking in the schoolhouse or the church to everyone who will listen. He sticks to one theme: If I were a citizen of your town, I'd want—like St. Paul—to say that I'm a citizen of no mean city. He leads his audience to the mountaintop, showing them the better houses and farms they can have, the industries they can attract, the way they'll feel as citizens of no mean city.

A nonsmoking, nondrinking Baptist, Moses winds up with a series of stories. He'll tell five or six in a string, reserving the punch line of each to give them together at the end—a rolling barrage of laughs. All he asks of the group, and by this time both men and women are apt to be dewy-eyed, is that the town show a willingness to improve.

• **Projects**—The follow-up begins with a clinic: Moses' young men take the townspeople in groups of 30 or less, ask them what they most want done in the town, and what projects they're willing to work on.

Result: Moses' young men come up with (1) a list of projects and (2) a list of people willing to work on them. The projects—landscaping, library or school improvements, a new water system—are carefully tabulated.

Next step is to get some local organization going. Almost always the town organizes a community council—made up of representatives of every group in town. That's all-important. For, in most communities, it'll be the first group ever assembled that really represents a cross-section of the town. And it'll have a definite program to work on—the list of projects nominated by the townspeople.

• **On the Farm**—The Arkansas Plan goes beyond the organized communities. Almost half of the Arkansas population is rural. These people live in farm communities—communities that often feel they have had the plug pulled on them. Most of these farm communities—usually 35 to 40 families—were organized around a one-room schoolhouse. Now that schoolhouse is gone; it's part of the consolidated school 10 mi. down the road. With it has gone the key to the community's social organization.

Today the power and light company—along with the University of Arkansas' extension service people in each county, and the 200 weekly papers in Arkansas—is reaching into those farm communities. It's trying to pull them together just as the more organized small towns are coming together.

• **Keys**—The program probably would bog down in a hurry without the clinics and the community council ideas. They make it work because they get local people working for it. But the Arkansas Plan's sponsorship is equally important. The community program is sponsored by the Arkansas Economic Council-State Chamber of Commerce and the state's Resources and Development Commission. That means that the men working on the program don't sell any power—don't try to, in fact. They get accepted because no commercial flavor comes with them.

To see what they can do, turn to page 76 for a look at Cave City.

THE IDEA to start improving the town came with Forrest "Froggy" Norman. He talked with local leaders.

CAVE CITY: A sleepy town in north central Arkansas, but one that is typical. And one that is already changing with . . .

Cave City: Arkansas Makes

FIRST BIG PROJECT was paving one of the town's main streets.

NURSERY SCHOOL got the tots away from the highway.

LANDSCAPING the churches and the Legion hut (above) was women's project.

NEW IDEAS coming to its farms. Farmers like Henry Clay Jackson, who owns this place, have mechanized, got out of cotton.

COMMUNITY COUNCIL was first thing town set up. Here Norman and Mrs. Ford discuss projects with a few members.

Its Own Revolution

(Story starts on page 72)

BETTER phone service wanted: When operator's out, you crank your arm off.

CLIMAX of the year came when Cave City's scrapbook won $700 prize.

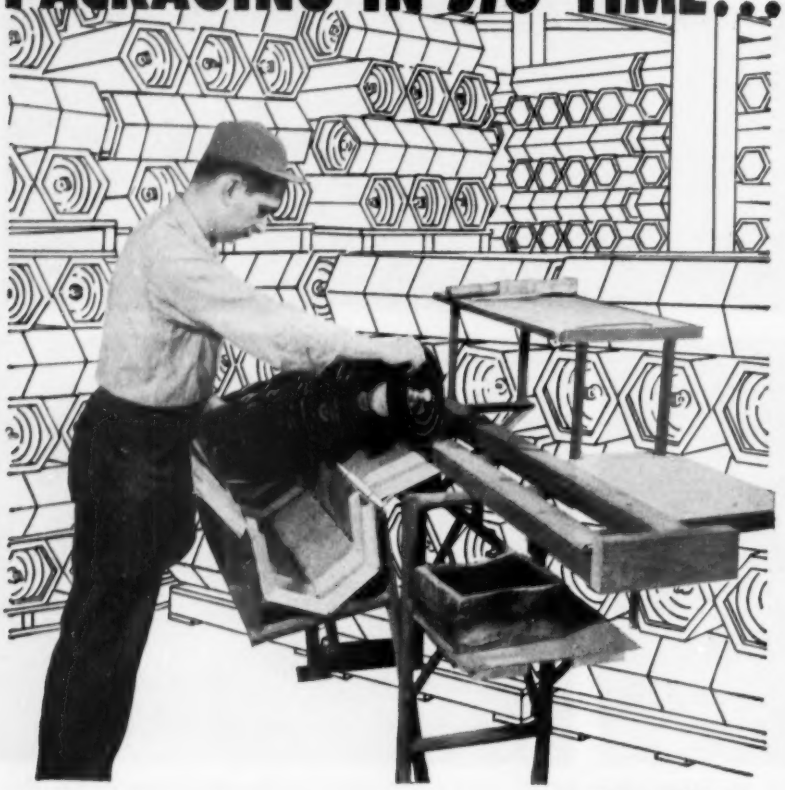
Cave City is 367 persons living in native-stone houses along Highway 67, 112 mi. north of Little Rock. It's hill country, the foothills of the Ozarks; and it's wonderfully rich country—as long as you don't try to raise cotton.

Cave City didn't get into the Arkansas Plan until about a year ago, when Forrest ("Froggy") Norman came up the hill. Froggy was representing the Economic Council and talking community development, but he's the power company's representative for northern Arkansas communities. Altogether, he has 75 communities under his wing.

Cave City heard speeches, organized clinics, set up a community council. Forty-seven people attended the clinics, put in cards that added up to 24 major projects. The first—to put in a water system—was suggested by 31 people.

• **Checklist**—Cave City didn't get to finish all its 24 projects, but it did something on practically every one. It collected the money to build a mile of black-top road; it organized recreational programs for youngsters who had no place to go but a tin movie shack; it

PACKAGING IN *JIG* TIME...



cut packaging costs 25%

with GENERAL ENGINEERED CONTAINERS

Packaging six porcelain insulators in a bulky nailed crate was a time-consuming two-man operation at Victor Insulators, Inc., Victor, New York. Introduction of the sturdy, lightweight General Wirebound Box and the jig-assembly system shown here enabled Victor engineers to reduce packaging to a quick, efficient, one-man operation, cut packaging costs by an estimated 25%. And their customers benefited by the substantial saving in on-site uncrating time—now a matter of seconds, thanks to General Wirebound Design.

This is only one example of hundreds of packaging problems solved each year—at a saving—in General Box Company's two fine Industrial Packaging Laboratories. General packaging experts stand ready to help *you* cut costs, too. Write today for complete details.

Find out how other manufacturers are cutting packaging costs. Write for your free copy of "The General Box."

General Box COMPANY
★ ★ ★ ★ ★
1805 Miner Street
DES PLAINES, ILL.

***Factories:* Cincinnati; Denville, N. J.; Detroit, East St. Louis, Kansas City, Louisville, Milwaukee; Prescott, Ark.; Sheboygan; Winchendon, Mass.; General Box Company of Mississippi, Meridian, Miss.; Continental Box Company, Inc., Houston, Texas.**

ENGINEERED SHIPPING CONTAINERS FOR EVERY SHIPPING NEED
• Generalift Pallet Boxes • Corrugated Fiber Boxes • All-Bound Boxes
• Cleated Corrugated and Watkins-Type Boxes • Wirebound Crates and Boxes

landscaped churches; and it is pushing the gas company to bring in natural gas. The list of jobs done also includes setting up a city dump, buying $400 worth of books for the library, organizing two scout troops.

All this won Cave City first prize—$700—in the statewide community improvement contest. That excited Cave City people so much that Mrs. Felix Ford, chairman of the community council, took her house off the market. She'd been upset enough by the town's shortcomings so that she was ready to move. But now she's going to fight for the water system. "We've got the water—those underground caves are full of it. Now we're going to get it up here above ground where everyone can use it."

They're shining up those caves, too, to catch tourists. "One tourist is worth two bales of cotton—and he's twice as easy to pick."

But this is only part of what's going on in Cave City. The Moses revolution in Cave City is riding with a couple of others. The great social changes sweeping the U.S. come to focus sharply in the Arkansas hills.

• **Out of Cotton**—Cave City's farmers are diversifying—getting out of the old crop, cotton, on which the whole community gambled its stake every year. Where the farmers ginned 2,500 bales as late as 1950, they ginned only 300 last year. And they've begun to mechanize. Gene Street, the town's farm equipment dealer, started from nothing in 1948, sold almost $250,000 worth of combines, tractors, and other equipment in the area last year. With all this, Cave City's sharecroppers have disappeared. The farms are owner-operated now.

Three products—livestock, broilers, vegetables—dominate Cave City's farms now. Pastures sparkle with crimson clover—which goes a long way toward making year-round pasturage possible. The white-faced cattle are dual-purpose—you milk them for six or seven years, then sell them for beef. Above all, the farmers talk "soil rebuilding"—a phrase they hardly knew in the days of cotton.

Behind all of these things to some degree is the University of Arkansas. It produced many of the people carrying through the community improvement program; it helped develop the Indian River broilers you see in the chicken runs, the white-faced cattle, the stains of clover and other seed.

• **Moving Up**—These same forces are working on more remote Arkansas farms. AP&L, for example, has 10 men working with county agents to push better farming methods, better homes, better communities. They've touched about 200 communities so far, have another 800 to tap. But already, in dozens of little communities, the

Symbols of "Progress Through Chemistry"...

Davison's policy of progressive diversification stimulated through research and development has led to the use of Davison materials in many different fields. Davison serves nearly every industry—catalysts for the petroleum and chemical processing industries; silica gels and silicofluorides for plastics, paints and lacquers; fertilizers for agriculture.

These are only a few products in a long list of Davison's contributions to "Progress Through Chemistry". Davison's dependable products and technical assistance are available to you in confidential collaboration on your product.

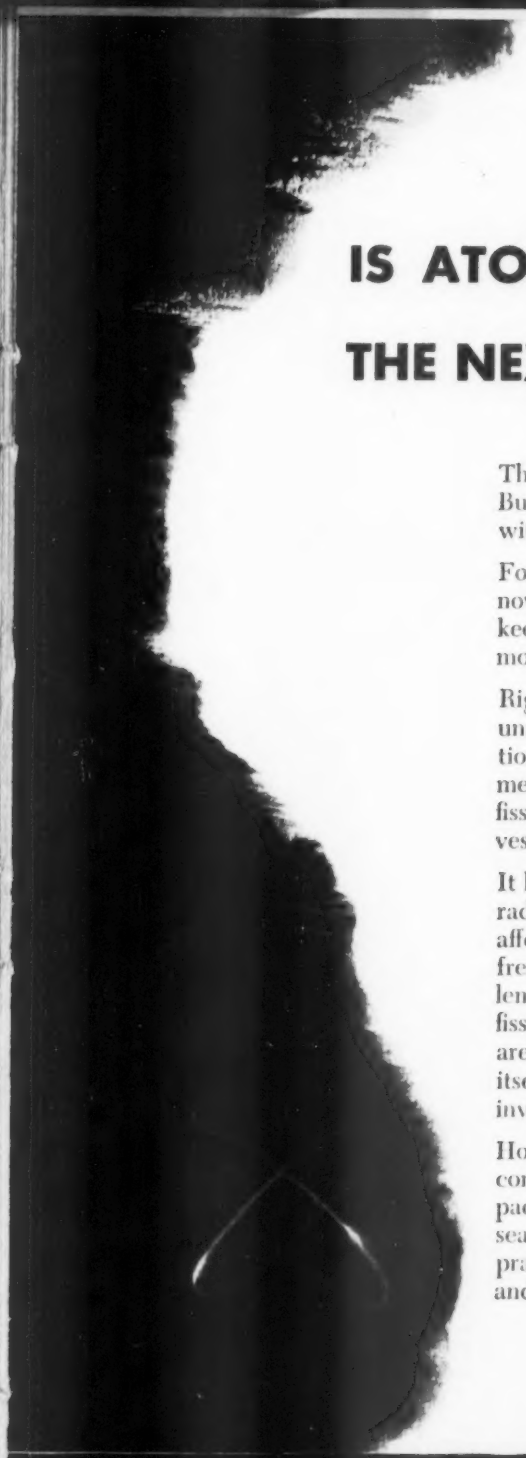
Progress Through Chemistry

THE DAVISON CHEMICAL CORPORATION

Baltimore 3, Maryland

PRODUCERS OF: CATALYSTS, INORGANIC ACIDS, SUPERPHOSPHATES, PHOSPHATE ROCK, SILICA GELS AND SILICOFLUORIDES. SOLE PRODUCERS OF DAVCO® GRANULATED FERTILIZERS.

SERVING INDUSTRY... SERVING AMERICA
You are always close to Continental Can with its 69 plants in the United States, Canada and Cuba, 17 field research laboratories and 66 sales offices.



IS ATOMIC CANNING

THE NEXT GREAT STEP FORWARD?

That's a question that even farseeing scientists can't answer yet. But when the day dawns for the cold sterilization of canned foods with atomic radiations, we aim to be ready.

For we know that, appetizing and wholesome as canned foods now are, our food-packaging customers look to Continental to keep them informed on ways to make these foods better and more economical.

Right now we are giving our support and financial backing to two universities whose laboratories are equipped to explore sterilization of foods by atomic radiation. Work is being conducted using mechanically generated multimillion volt cathode rays. Atomic fission waste products sources for gamma rays are also being investigated.

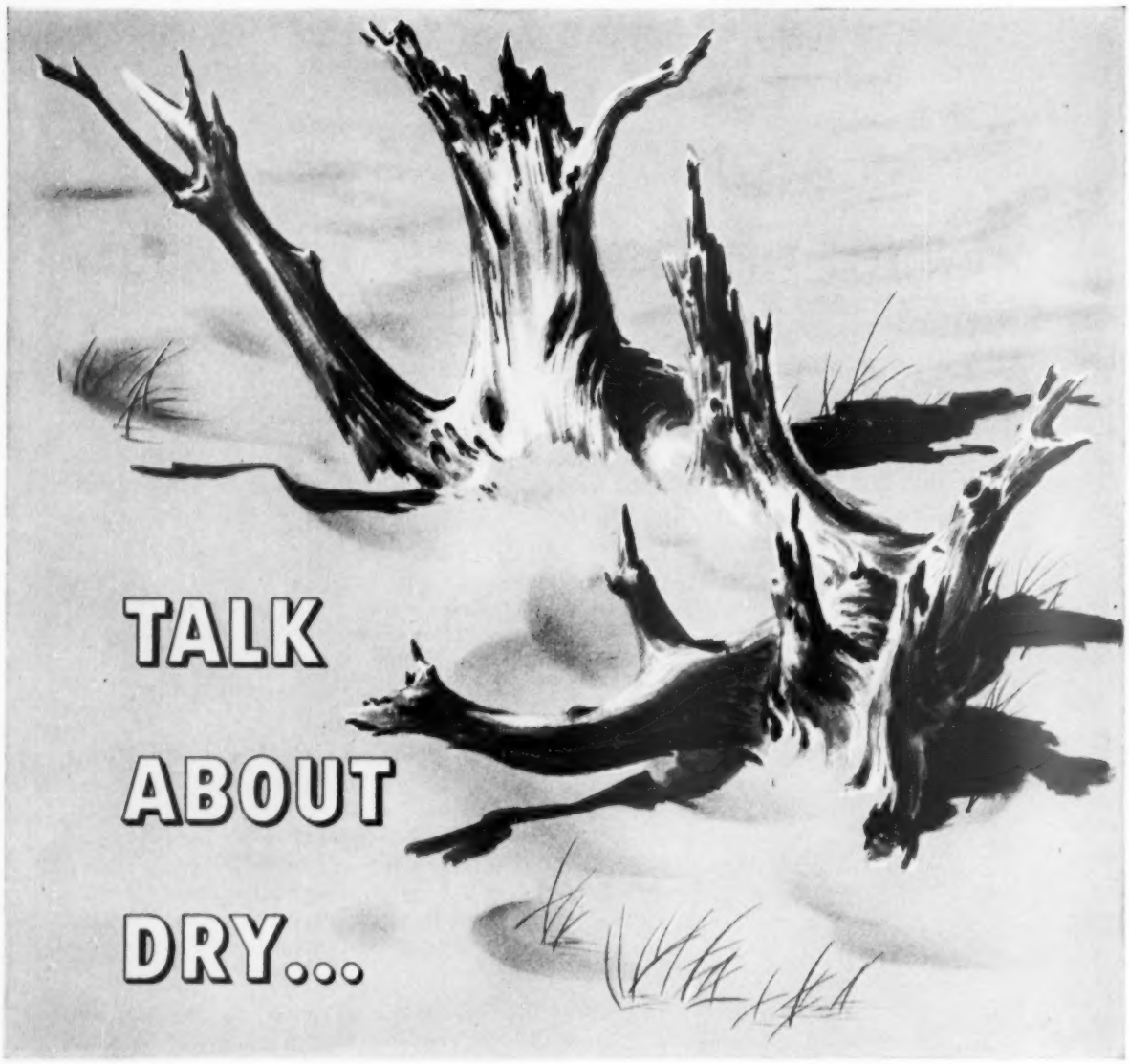
It has already been established that cold sterilization with atomic radiations will destroy all bacteria in foods without otherwise affecting them. Atomic sterilized foods are essentially like raw, fresh foods. But, from a commercial point of view, there are problems. Cost is one. Another is the safety of workers handling atomic fission products or high-voltage generating equipment. And there are many details which must be worked out concerning the food itself. So there is need for a great deal of further comprehensive investigation.

However, Continental scientists are convinced that the day will come when atomic radiations will be used to cold-sterilize certain packaged foods. We are encouraging and closely following research in this field. So if and when "atomic canning" becomes practical, Continental will be able to supply the best in containers and the best in counsel to the food-packing industry.

CONTINENTAL CAN COMPANY

CONTINENTAL CAN BUILDING

100 E. 42nd ST., NEW YORK 17, N. Y.



Have you tried Alcoa Activated Alumina?

Maybe you think a parched and sun-baked desert is *dry*. Brother, you don't know what dry means 'til you've tried ALCOA *Activated** Alumina!

ALCOA Activated Alumina is the "old reliable" in the desiccant field. It dries to lower dew points (minus 100°F and lower) than any other commercial adsorbent. It will not swell, soften or disintegrate . . . can be used over and over again almost indefinitely.

ALCOA Activated Alumina has wide acceptance as an outstanding drying agent. It has simplified processing, sped up production, improved product quality for hundreds of manufacturers. Its desiccating properties are used in the chemical, food, candy, drug, metal, and petroleum industries as well as in air conditioning and the maintenance of oils.

If your business requires speedy, efficient dehydration of liquids, vapors or gases, put in a quick call to ALCOA, or write ALUMINUM COMPANY OF AMERICA, CHEMICALS DIVISION, 700-E Alcoa Building, Pittsburgh 19, Pa.

*Reg. T.M., Aluminum Co. of America

"SEE IT NOW" with Edward R. Murrow . . . CBS-TV every Sunday . . . brings the world to your armchair. Consult your newspaper for local time and channel.

Alcoa Chemicals

ALUMINUM COMPANY OF AMERICA

people are digging cemeteries out of the woods, putting up community buildings, experimenting with electrically operated watering troughs, trying new seed.

In the long run, this program may do more than anything else to raise the state. The people in small towns have incomes that are well below those of Little Rock people. The 800,000 on farms have still less. So Arkansas can do a lot by making over the farms to provide jobs as good as those in industry. But it's a race. For industry is showing more and more interest in Arkansas.

• **More Industry**—The state and Moses have been pushing an industrial program for years. The Arkansas Economic Council-State Chamber of Commerce, a combination of a committee for economic development and the chamber of commerce, was founded just about 10 years ago. Moses was the first president and still holds the title. Along with the state Resources & Development Commission, and leaders in communities, it has been bird-dogging new industries.

Nowadays, the scouts are heading not only for Philadelphia and Detroit, but for the "growth" cities like Houston and Los Angeles. The companies that set up in these cities a few years back have expanded, so they're now looking for new locations on their own.

Here AP&L likes to think it operates just as another good citizen of a town. If the town wants to build a plant to attract a new company, AP&L will contribute, like other citizens—putting up as much as 5% of the money.

IV. The Big Payoff

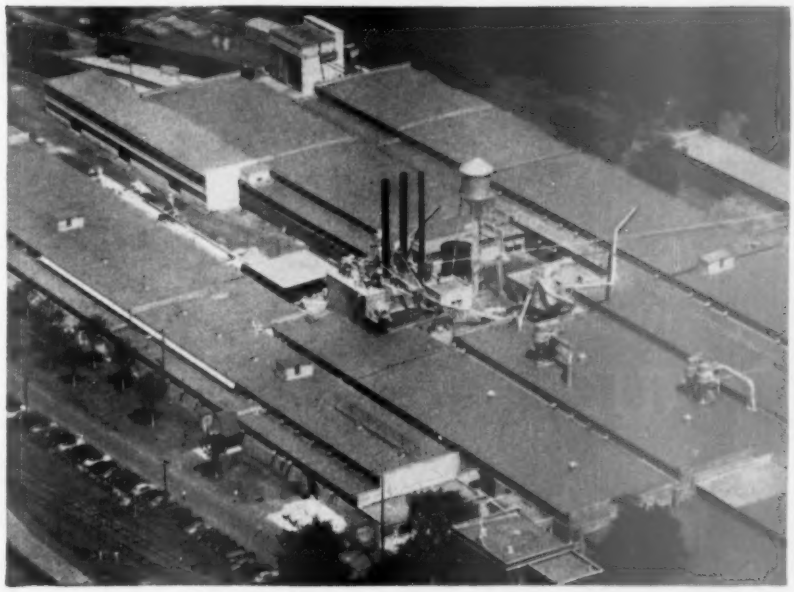
How has all this paid off for Arkansas—and for the power company?

You can see the face of Arkansas changing. The tin-roofed pineboard shack that was home to much of Arkansas 10 years ago is giving way to the ranch house. Chances are good that the ranch house—and sometimes the shack—has a television aerial alongside the chimney.

Towns that were dirt-poor a decade ago are raising new schools and hospitals: Last year, 11 hospitals went up in the state.

Industries are moving in: Where the state had 53,339 industrial workers in 1939, it has about 90,000 now.

• **Mutual Benefit**—AP&L can see that in helping build this prosperity, it's putting money in its own pockets. It has siphoned about $100,000 a year for 10 years—perhaps as much as $150,000 a year if you count everything—into the Arkansas Plan. In addition, Ham Moses puts in about 80 days a year, covering the long roads in his black Chrysler,



20 perfect climates for a 730-acre factory

Another problem solved with Trane air conditioning products

PICTURE 730 acres of rich Iowa farmland "planted" with temperature problems as varied as you'd find in a big industrial city.

A single factory covering more than a million square feet, with 2200 workers in 20 buildings, each with its own problem of heating, cooling, ventilating and heat transfer.

But was it practical—even possible—to find the exact solution to every one of these problems?

Fortunately, one manufacturer was able to answer them all. That one source was TRANE.

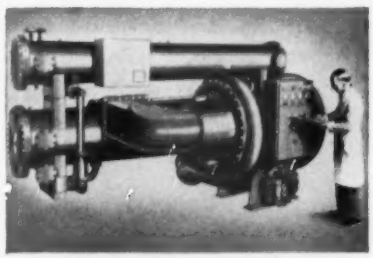
Working with TRANE, plant engineers and their consultants quickly found the exact size and type product for every application.

TRANE Unit Heaters, Coils, Fans and related products . . . literally *thousands* of them . . . were installed in this one factory to meet exactly the varied heating, cooling and heat transfer jobs.

They delivered the right working climate essential to plant efficiency in machine shops, foundries, assembly lines, heat treating areas, research laboratories, sheet metal shops, offices . . . even in the gas plant, fire department, water system and sewage disposal plant.

Chances are good, you can find the exact solution to your temperature problem in the complete TRANE line. Whatever the problem, take it to your nearest TRANE sales office.

Meantime, write for a free booklet, "Temperatures by TRANE". The Trane Company, La Crosse, Wisconsin; Eastern Manufacturing Division, Scranton, Penn.; The Trane Company of Canada, Ltd., Toronto; 87 U.S. and 14 Canadian offices.

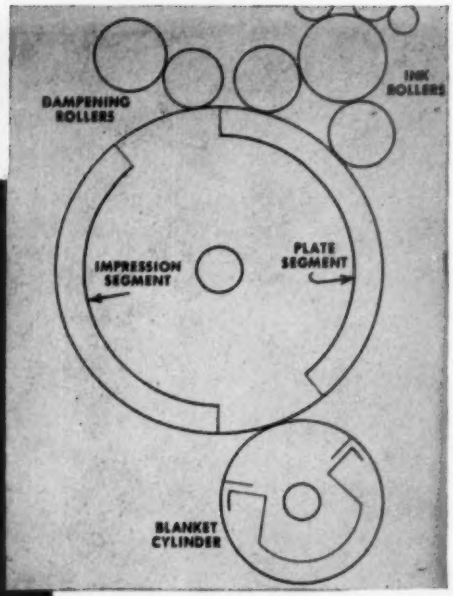


This packaged water chiller might be the right answer to your comfort or process cooling problem. It's the TRANE CenTraVac that provides single-source refrigeration to three air conditioning systems in this one midwest plant. Self-contained, completely automatic. Runs without special attention.

TRANE

manufacturing engineers of air conditioning, heating and ventilating equipment

IT'S ALL A MATTER OF PRINCIPLE



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It's simple when you see it . . . this method of doing offset printing with only two cylinders instead of the conventional three. Simple . . . but mighty important. With this basic principle you get worthwhile advantages not possible from any other press.

★ For instance . . . if you know printing you'll see how, because of this principle, the ink rollers have much more free time in which to get re-inked . . . resulting in *full ink coverage* . . . absolutely essential to good printing.

★ Furthermore . . . this one press does *offset printing, direct lithography and all forms of letterpress printing* . . . reproduces from paper or metal offset plates as well as from type, electros, rubber plates and Linotype slugs. No other press can give you this advantage.

★ Here's another exclusive. The Davidson Dual is the only press that will do *both printing and embossing* in one operation . . . once through the press. The results approach the finest copper plate engraving in quality . . . at amazingly low cost.

★ And . . . with all these advantages you have the utmost in precision and accuracy . . . close register, simple operation, easy adjustments, positive stripping and stacking . . . combining to produce clean, crisp, line work, excellent halftone reproduction, fine multi-color work . . at high speed and low cost. That's why hundreds of users say . . .

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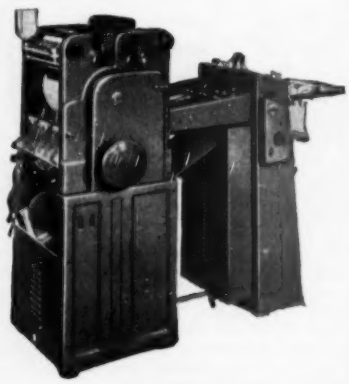

THE Davidson Dual

DAVIDSON CORPORATION
A Subsidiary of Mergenthaler Linotype Company
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". . . chances are he could be elected if he did run . . ."

MOSES starts on p. 72

staging as many as four meetings a day. Other executives put in comparable amounts of time.

AP&L doesn't try to take credit for the projects. When something gets done, the credit goes to the people who did it.

On the other side, though, AP&L has trebled the number of its customers —now 250,000—and multiplied its revenues four times since 1940. Last year revenues were $36-million; they may well touch $42-million this year.

• **Making Friends**—The big payoff, though, has been in public relations. Ham Moses has been afraid of something like an Arkansas TVA for 20 years. He has fought it by pushing rural electrification, by selling power to rural cooperatives cheaper than the government's power systems could, and by building Arkansas.

Last year public power advocates tried to set up a public utility district in Jackson County, around Newport, Ark. It would have taken over all AP&L facilities in the district. Moses threw into the fight everything—and everyone —he could. In the end, in a county-wide vote, the PUD lost four-to-one.

• **Governor?**—Three times Moses has been offered the governorship of Arkansas. The other candidates actually offered to withdraw if he'd run. And the chances are good, say the men who work at or report Arkansas politics, that he could be elected if he did run. At least, if any utility executive in the country could be elected to a governor's chair, Moses is the man.

Each time the question came up, Moses said there was nothing he'd like better than to be governor of Arkansas—but. The but seems to be that he honestly feels he can do more to build Arkansas where he is. As governor he'd have more influence in some ways—but he'd make a lot more enemies.

• **Salesmen**—For Moses, the Arkansas Plan's payoff is in making friends. "Once Arkansas had only one salesman —Harvey Couch (the man who put AP&L together). Before long, with this plan working, it will have 50,000." And quite a few of the 50,000 will be helping to sell power.

But will it go on? Arkansas has almost unlimited room to grow, but will it? Will it keep on growing if Ham Moses relaxes? A lot of people in Arkansas—in Little Rock, in Cave City, in Carlisle, in other towns—think it will.

Moses himself is sure it will. "In a few years those rich old states, they're going to have to sprint just to stay even with us."

Which knife was made for surgery?

The answer—incredible as it may seem—is *both*. But the one at left was made in the 16th Century—from steel. It was a symbol of terror and death. And the one at right was made today—from special *alloy* steel. Sharper, stronger, highly resistant to the attack of powerful disinfectants, it is a symbol of hope and life.

That is but a single page in the story of alloy steels. For these are the steels which have also made possible today's ships and planes . . . skyscrapers and locomotives . . . machine tools and home appliances. These are the steels whose superior physical properties are "built in" with Vancoram alloying elements.

Developed and produced by Vanadium Corporation's integrated network of mines and mills, Vancoram alloying elements include ferro alloys of chromium, vanadium, titanium and silicon as well as master aluminum alloys. Increased quantities are now being delivered to every phase of the American metals industry.

Uranium concentrates for America's growing atomic energy program are extracted from vanadium-uranium ore at Vanadium Corporation's mill at Durango, Colorado.

Stainless steel walls cut construction costs of Pittsburgh's Gateway Center skyscrapers—while increasing their beauty, efficiency and weather resistance.

New $3,000,000 plant of Vanadium Corporation at Cambridge, Ohio, now reaching peak production, produces special alloys for the growing aluminum industry.

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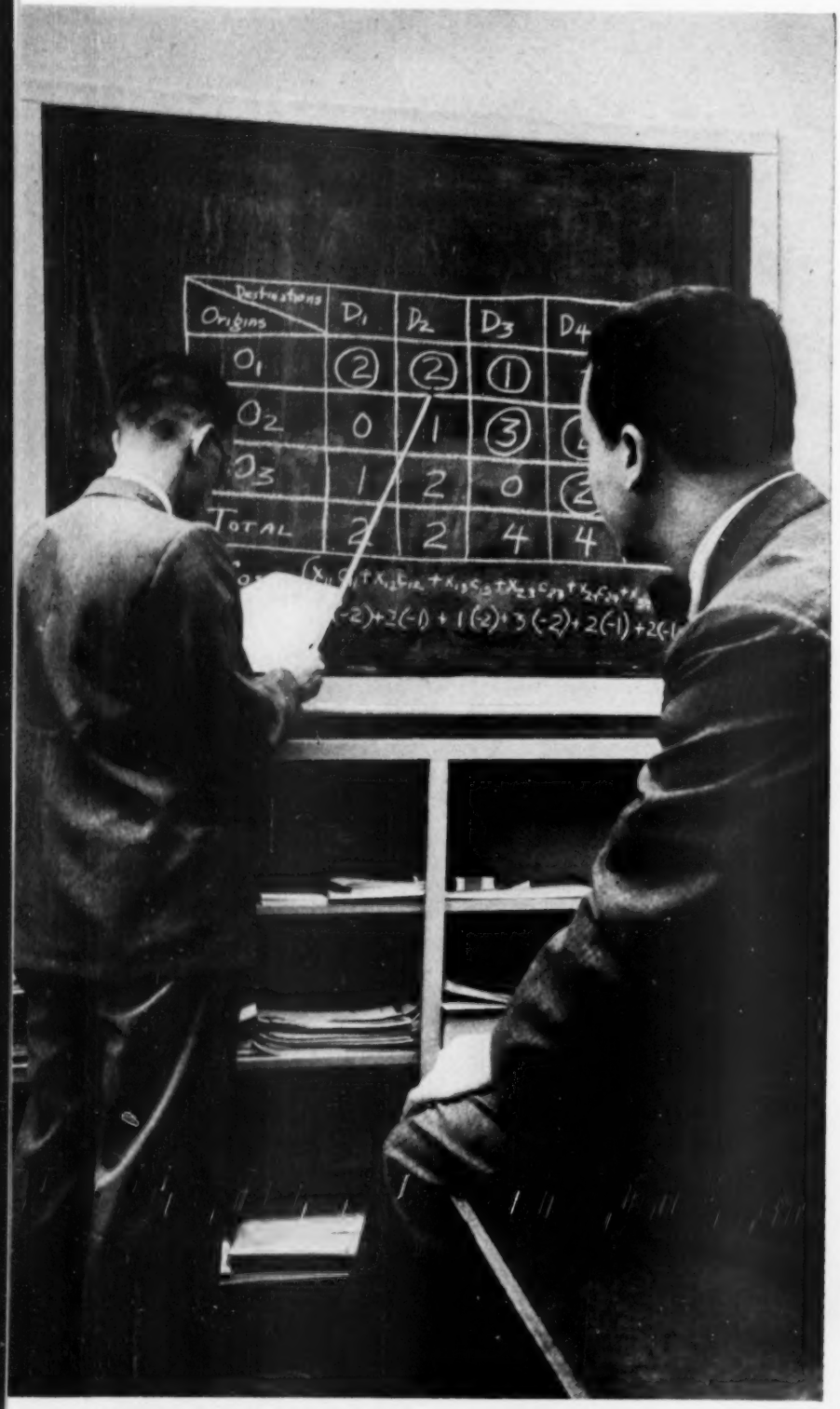
Producers of alloys, metals and chemicals

Top Management by Mathematics



ANALYSIS like this may produce the best way to schedule warehouse shipments.

The technique of linear programming may reduce many judgment questions to matters of calculation.

SKF Industries, Inc., is a manufacturing company with a problem. It shares the problem with almost every manufacturer who has a wide variety of products and processes.

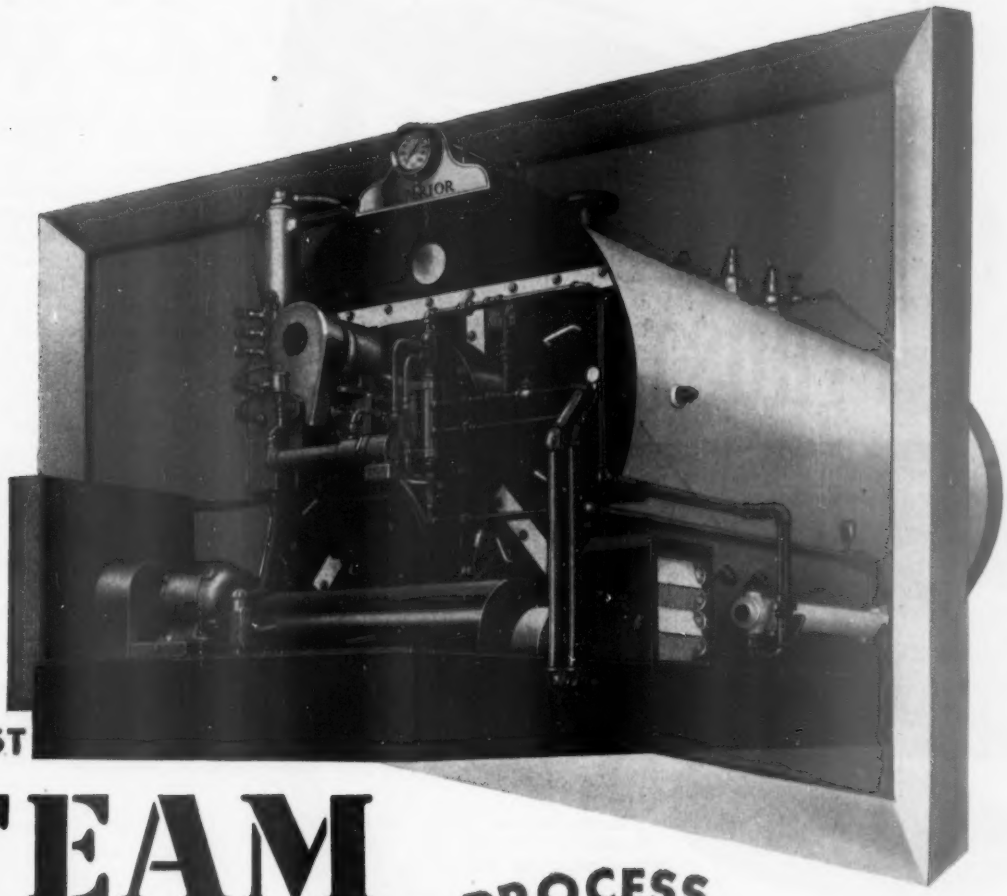
The problem: how to assign work orders for particular jobs to particular machines. Whenever work is heavy, some jobs go to older machines that are not the best ones to do the job and that run costs up. However, it doesn't seem sensible to SKF to tie up money in keeping enough of the newest models of every type of machine available so that every job can always be done in the cheapest way. The problem is complicated, of course, by the fact that some products can go on older machines with only minor loss of work hours, while others will suffer seriously. So how do you distribute the work in such a way as to minimize the loss of work time.

The usual system is to rely on the judgment and intuition of a good superintendent. But a little while ago, SKF got to wondering whether there might be a more exact approach to the problem. It went to a Pittsburgh consulting firm, Methods Engineering Council, to find out.

• **The Method**—SKF couldn't have picked a better time for its inquiry. The consultants were able to tell them that within the last three or four years mathematicians have developed a set of methods for dealing with exactly such problems. It's a method known, in mathematician's slang, as "linear programming"—because it's used for programming and because mostly it deals with simple linear relationships involving no nasty squares, cubes, exponentials, or the like.

Methods Engineering Council seized on SKF's problem as a chance to try an industrial application of the new methods. The experiment is just beginning; no one can tell yet exactly how successful it will prove. But already it looks promising enough to suggest very wide applications in all phases of business. Within a few years mathematicians may be at least as common on top management staffs as, say, economists are now (page 96).

• **The One Best Answer**—The new method is aimed to deal with problems



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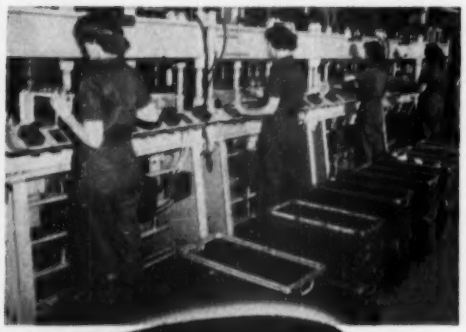

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These machines eliminate the possibility of human error in calculating and measuring critical time-pressure-temperature cycles. They do a precision job . . . automatically, unfailingly.

Synthetic Rubber Oil Seals

Our employees find this arrangement makes their work easier. Our customers know it results in packings and oil seals of *consistent quality* regardless of the day of the week or the time of day they are made.

It's another good reason why: "You can trust a Trostel seal."

Illustrated Bulletin On Request

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TROSTEL QUALITY

TROSTEL packings

in which a lot of different activities must be scheduled (at SKF, different products must be assigned to different machines), each activity affects the others (if a machine is working on one job, it can't be working on another), and you want to pick the one schedule of many possibles that will give the best results (at SKF, the one that involves the least waste of man-hours).

The linear programming technique is powerful enough to take account of realities of manufacturing (e.g., the fact that a machine cannot work at more than capacity but can work at less than capacity) and with values that are only known approximately.

An especially important recent advance is the development of methods by which girls with adding machines or electronic computers can do the actual calculating, once the problem has been analyzed by a professional mathematician.

• **Other Problems**—Consultants have successfully tried the technique to develop the most efficient method of cracking crude oil into many products, and to decide the best production schedule for a company with seasonal sales. Mathematicians think that it can also be used to solve traffic handling problems, to develop the most profitable combinations of products for a diversified company, and to set up salary evaluation systems.

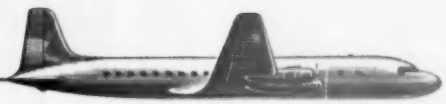
Linear programming is just one of the tools that can be used to solve management problems under the approach called operations research (BW—Dec. 1'51,p62). It is nothing more than a method of solving management problems by techniques used in the physical sciences. It was developed during World War II in an effort to find sound scientific methods of solving such problems as deployment of troops, submarine spotting, and naval warfare.

• **New Mathematics**—Linear programming itself got its big impetus after the war. The Air Force became interested in the damage that peacetime expansion of the Air Force might do to civilian industries. Air Force planners wanted to know what effect an increase in bomber production would have on steel output, for instance, or what effects a shift from manufacture of fighters to bombers might have on the economy.

Several research projects were started to get techniques for solving the intercompany effects of Air Force procurement. The direct result of this work, and the one that has become widely known, is Leontief's "input-output" method of economic analysis (BW—Dec.15'51,p94). But a byproduct of this work was the new mathematical method that can be applied to many other problems.

This year, Professors W. W. Cooper, A. Henderson, and A. Charnes of

Baby Chicks *to* Bazookas



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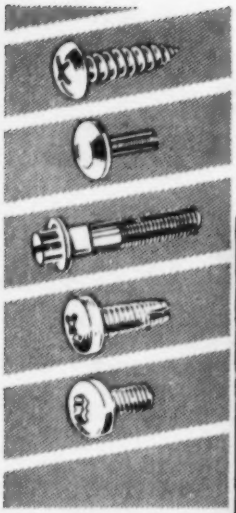

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Carnegie Institute of Technology, who had been interested in the Air Force work, published a book describing some of the techniques as they might be applied to industry (An Introduction to Linear Programming, John Wiley & Sons, Inc.). The MEC consultants working on the SKF program used the Cooper-Henderson-Charnes ideas.

• **The Drawbacks**—Although linear programming has apparently been successful in the problems tried, it still must be considered a research method, not fully developed as a management tool. For relatively simple cases, it works fairly well; but before the technique can be used to best advantage, there are a lot of problems to be solved.

The toughest problem facing the consultants is how to put the subtler business factors into mathematical terms. For instance, how do you rate customer goodwill or employee satisfaction in mathematical terms that can be put into an equation. The mathematicians must also learn what information is needed and what factors can be thrown away. If they don't figure this out, the equations are likely to become so involved that even the electronic calculators, often needed for problems now, may become confounded by their complexity.

• **Least Regret**—Still further in the future is mathematical treatment of the cases in which you have to allow for the unknown actions of a competitor. Offhand, this sounds almost impossible, but it is beginning to look as if, before too long, these problems could be solved.

The approach is to combine linear programming methods with the concepts of the "theory of games" developed by von Neumann and Morgenstern. The technique of this is complicated, but its basic idea is the strategy of least regret. You find the course that will cause you the least trouble if your competitor does the smartest possible thing.

The theory of games gets its name because, although von Neumann and Morgenstern were aiming at economic problems, they started by tackling the theoretical problems of games. They asked such questions as: Should a poker player holding a full house raise an opponent who has drawn two cards? Or what system might be used to beat the roulette wheel at Monte Carlo?

• **Allowing for Competition**—The theory of games is now getting to the point where behavior of competitors can be considered as a factor in solving linear programming problems. Production information of a company trying to develop its production schedule becomes the full house in the poker game. Past behavior of the competitor compares in this analogy to the two cards drawn by the opponent. The

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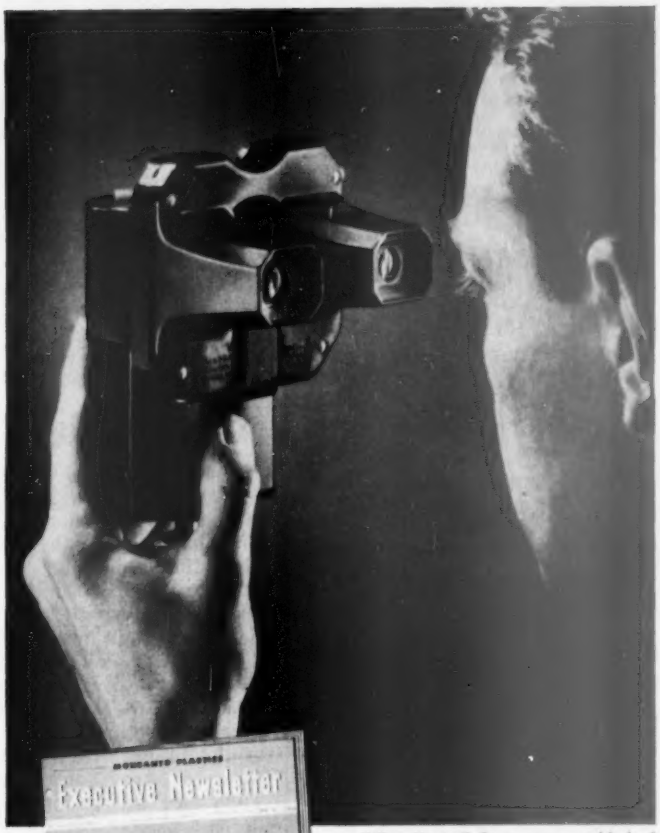
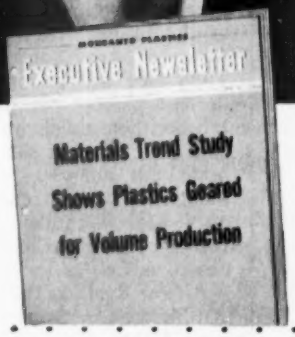
This new study of materials trends reviews the steady improvements in plastic raw materials and molding techniques in recent years. It also describes the "property" and performance advantages of plastics (appearance, durability, chemical resistance, etc.) in terms of specific products. And it shows how "one-piece" production . . . with machining, finishing, and assembly operations eliminated or materially reduced . . . can help keep design, engineering, and production in better balance.

Here's a thorough study of the part plastics are playing today as basic engineering materials. If you'd like a copy, just use the handy coupon.





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problem is: Should he produce more (raise on the poker hand) or cut back?

So the day may not be far off when industrial mathematicians will be handling top management problems like this: In planning their over-all operations, companies have three alternatives. They can produce only what the sales department gets orders for, ignoring such things as the economics of long production runs. They can decide on several alternative programs of operations and pick the best. Or they can try to develop the one program that would make the most profit. In most cases, industry has taken the middle road of selecting a few alternatives, testing them, and choosing the best. To study all of the thousands, or possibly millions, of alternatives open to the company seemed impossible. And you never know what a competitor will do. So the middle road was taken as the best way.

The mathematicians and the consultants who have tried linear programming don't agree with this idea. They think that linear programming will solve the optimum question and point out the one best plan for the company to follow. They think that their mathematical research will thus take much of the weight of decision away from the plant manager.

Running Phantom Jet Transports

On paper, two United Air Lines jet transports have been making trans-U. S. flights. It's a research project aimed at solving jet transport problems.

For six months, two jet transports have been making daily flights across the United States between New York and San Francisco. But they have carried no passengers or crew. The reason is that they exist only on paper—as part of a research project of United Air Lines.

• **Paper Test Runs**—United wanted to get a better picture of the problems involved in handling jet transports. They had heard of the special weather forecasting facilities needed, of the difficulties of high speed that make takeoffs and landings trickier. So they decided to find out how problems such as these would work out in practice.

United's engineers drew up blueprints for two identical jets of a type they thought might serve their airline in the future. They worked out the passenger, crew, and baggage loads. Then they decided on a schedule for the two planes.

Since then, the flight plans have been filed each day as if the two planes had been built and were ready to fly even though the designs actually are still just on paper. Weather conditions have been charted and the simulated flights carried out all in theory.

• **Almost Real**—As the simulated transcontinental planes approach Chicago in their flights, they are entered on the flight records at United's Chicago office just as if they were above the city in the air. The planes are worked into the landing pattern at the airport. If local conditions are not best at Chicago, the make-believe jet is routed to an alternate airport and the paper work for a landing there is carried on just as if it had happened.

The same thing goes on in New York or San Francisco. All the paper work is done to land the planes.

• **Prospective Planes**—The imaginary planes that United is using for its research would carry from 70 to 80 passengers and a crew of five. They would cruise at 550 mph. at an average altitude of 40,000 ft.

Each day the theoretical westbound flight takes off from New York at 1:15 p.m. (EST). After a stop in Chicago, it lands at San Francisco at 4:50 p.m. (PST)—six hours and 35 minutes later. Thus a simulated passenger has had lunch in New York and can get in a shower before his dinner on the West Coast. The eastbound plane leaves San Francisco at 7:30 a.m. (PST) and lands at New York five hours and 45 minutes later at 4:15 p.m. (EST).

• **Weather Hitch**—United knows that jets are affected by weather to a much greater extent than are other planes. Fuel consumption is much higher at low altitudes than at high altitudes. For instance, on a Chicago to San Francisco flight, a jet forced by weather conditions to fly at 20,000 ft. for half the distance would lose enough fuel to decrease its range 300 mi. So weather became one of the biggest unknowns United hoped to solve by its paper project. The results of the check are encouraging.

An ordinary plane flying from New York to Chicago takes more than three hours, so the pilot would need a Chicago forecast more than three hours in advance if he is to predict his landing conditions before takeoff. The added speed of the jet reduces the time to one hour and 45 minutes. The shorter projections of the forecast permit increased accuracy, according to United,

13.75 YEARS "AT HARD LABOR"

Records of the operation of a fleet of electric industrial trucks in an eastern plant of a large manufacturer of domestic heating equipment show that all cells of all EDISON storage batteries replaced during the past five years gave an average service life of 13.75 years.

The EDISON batteries have never failed to furnish ample power for continuous, full-shift truck operation. And the trucks are hard workers. They regularly handle loads of sheet steel and fabricated metal parts averaging close to their full rated capacities. On occasion, the batteries have operated the trucks for 10 hours without being exchanged—an indication of their ample reserve of operating power *through the very end* of the shift.

Such outstanding performance is not unusual. It's the kind of performance that may be expected from EDISON batteries anywhere under similar conditions of application, operation and maintenance. Get the facts about what they can do on *your* job. It will pay you to send for Bulletins S. B. 3808 and S. B. 2039 and the address of your nearest Edison field engineer.

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Savings as high as $10,000 in 9 months' time are reported by users of Standard Pneumatic Tube Systems — filling orders, moving merchandise, money, messages, records, between departments. Reduce messenger and telephone service. Can be installed for a wide range of needs in stores, warehouses, manufacturing plants, offices. Write for Bulletin No. 11 and complete information — address Dept. BW-53.

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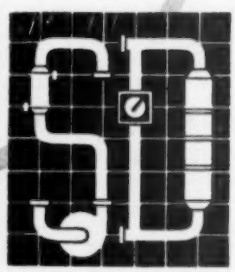
SD announces their commercial

Monomeric Styrene Process

Complete information, including an economic evaluation, is now available to the chemical and synthetic rubber fields where styrene is an important raw material. SD's monomeric styrene process is the result of over four years engineering development and actual plant design by SD's staff of organic chemical plant design specialists.

SD Handles Complete Project

From basic economic evaluations to initial operation, SD takes full responsibility for organic chemical processing projects for your process or one of our own—on a completely confidential basis.



SCIENTIFIC DESIGN COMPANY, INC.
Executive Offices: 2 PARK AVE., NEW YORK 16, N. Y.
Engineering Offices: Jersey City, New Jersey

and should compensate for the increased importance of the weather to the jet.

United uncovered some other points from its project, which is still going on. Changing course to avoid head winds or take advantage of tail winds is of less importance to jet planes. A 100-mile-an-hour head wind slows a 300-mph. DC-6 by one-third, but it slows a 550-mph. jet by less than one-fifth. Further information on high-altitude winds seems important, however, before United would want to try the planes in anything beyond a paper test. Such information is needed particularly for the winter months.

• **Good News**—The biggest item on the plus side to emerge from the tests, as far as United is concerned, is that it appears that a change-over to jets would be easier than had been anticipated. Although the change-over will not be easy, United now feels that jets can be operated in an airport traffic pattern just as their present DC-6s now are. This would be much less of a problem than was expected.

RESEARCH BRIEFS

Schizophrenia will be studied by psychologists at Duke University who have received a grant from the National Institute of Mental Health for this purpose. The grant also provides for a study of the value of various nutrients. The two projects will be conducted by the Duke psychology department, assisted by graduate students and other workers.

•

Cotton processing problems are nearer to solution as a result of a special research project being carried on by American Cotton Manufacturers Institute, the Institute of Textile Technology (Charlottesville, Va.), and the National Cotton Council of America, it was reported to the textile industry this month. Production facilities of 17 mills are being used for the research tests.

•

Water pollution will be studied by the new Research Foundation on Industrial Waste Disposal, set up by Case Institute of Technology in cooperation with the Cleveland Chamber of Commerce. The foundation hopes to raise $150,000 from Cleveland industry to finance the 3-year project.

•

Engineering and research activities of Owens-Illinois Glass Co. will be under the direction of Oscar G. Burch, vice-president, from now on. All of the engineering and research carried on by five divisions of the company and a subsidiary, Kimble Glass Co., will be coordinated in a new single department.

A little pile of concrete dust makes a heap of trouble for man and machine. And most important, it means your old fashioned untreated concrete floor is crumbling away!

Danger! dusting concrete floors mean triple trouble

LAPIDOLITH*, world's only patented chemical concrete hardener, gives you a Bonded Guarantee your floors will not deteriorate, will not dust!

There's dangerous concrete dust itself, harmful to man as well as to machine. In addition to these two troubles, dusting floors mean concrete dollars crumbling away! Inexpensive Lapidolith eliminates these triple dangers; and does it with bonded guaranteed results, backed by the National Surety Corporation of New York! Lapidolith makes your floor up to 10 times harder; adds 20 to 30 years extra life.

Lapidolith soaks *into* concrete, stops wear and dusting!

Ordinary hardeners react strictly on surface, temporary protection at best!

The inability of ordinary concrete hardeners to penetrate confines their hardening action entirely to the surface.

Lapidolith, on the other hand, actually penetrates beyond the surface, soaks deeply *into* the concrete, due to its exclusive penetrating agent DYNEX. A powerful chemical reaction takes place which makes the concrete so hard, so dense that it becomes chemically resistant, dust free, and up to 10 times harder! *Instead of crumbling dollars away, your floor actually improves with wear!*

Naturally, Lapidolith hardened floors virtually eliminate the expensive maintenance and replacement costs that plague the owners of non-hardened floors. The proof is in the millions of dollars Lapidolith is saving for all types of industry right now!

For over half a century, industry has taken advantage of Sonneborn research and developments in the highly specialized field of concrete floor hardening. As leader in the field, Sonneborn is always ready to put this experience and know-how to work for you. Write, and tell us about your floor problems and let us prove results by referring you to Lapidolith installations in your locality.

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MANAGEMENT

Business Statistics Going Ph.D.

● Higher mathematics is starting to answer a lot of problems that have bothered management.

● Scientific sampling finds a range from splitting up rail revenues to counting telephone poles.

● Even newer methods are giving hard arithmetical values to things that have always been considered intangible.

If you ask the average top executive whether his company uses statistics, he'll probably point to a mountain of reports, ledgers, financial statements, and production charts and say, "What do you think?"

He'll be right, of course. But what most executives mean by statistics is a long way from some of the approaches that scientists have been developing, especially since the war. These new methods include such things as scientific sampling, correlations, ranking, the information theory developed from work at Bell Telephone Laboratories, decision theory (out of von Neumann's theory of games), and linear programming, one of the most recent mathematical tools (page 86).

• **Limited**—Until the last couple of years, the application of these types of statistical analysis—using all forms of higher math—has been largely confined to scientific fields. Now, though, there is something like a concerted drive by statisticians, professors, and consulting firms to push the use of statistics deeper into business.

Already, high-level statistics have a place in the production end of many companies. Statistical quality control has been adopted as quicker, cheaper, and often better than total inspection in making sure that purchased materials are up to specifications or that products reach the customer as advertised (BW—Jun.30'51,p45).

• **New Fields**—Even in this field there is plenty of room for expansion. The steel industry, for instance, is just beginning to extend statistical quality control in many of its processes.

And this month, at least three meetings attended by ranking scientists and management men have pointed up the growing interest in extending statistics into areas where business has never tried them before:

• At Carnegie Tech's Graduate School of Industrial Administration, about 150 people gathered for a two-day conference. Its title: Modern Statistical Methods for Business and Industry.

• At Case Institute of Technology, Cleveland, the Operations Research Society of America had its first annual meeting. Operations research—called OR—is chock full of statistics.

• Arthur D. Little, Inc., Cambridge (Mass.) management engineers, last week showed off its statistical wares, bundled together in an OR unit.

A glance at the Carnegie Tech program gives some idea of what statisticians think they can do for industry—and how some of them are proving it. Some of the subjects: Financial Control of Sampling; Modified Regression Analysis as an Aid in Setting Salary Classifications; Controlling Inventories by Use of Statistics; the Use of Sampling Procedures in Auditing. Some cases of scientific sampling were taken up in detail.

I. Financial Control

Dr. C. West Churchman, director of the OR group at Case, gave a blow-by-blow account of how sampling solved a tough—and up to then unsolved—railroad problem. It worked out like this:

In railroading, settling up of payments for interline shipments poses a complicated accounting problem. The Chesapeake & Ohio, for instance, will originate a shipment that has to be hauled over Union Pacific track to reach its destination on the West Coast. Union Pacific receives payment for the entire haul from the ultimate receiver. At the end of each month, the two railroads have to figure how much is due to each line on each cooperative shipment.

Since each of the thousands of shipments in a month has its own waybill—and shipments are often broken down into less than carload lots—the settlement requires a complicated set of computations, necessarily handled by expert division clerks. To make it worse, the settlement in the majority of cases involves three or four railroads.

• **Arithmetic**—In the early days of railroading, every waybill was looked at separately at the monthly settling up. Then the 1930s brought a need for economy. It became unprofitable to spend so much time and labor on the settling of accounts. At that point, the industry ran a year's study, and worked out what percent of the kitty was due to each road. Then, for years, all hands used these percentages—called road-to-road percents—in divvying up the interline freight revenues.

After World War II, the lines realized that the percentages hadn't been changed for years, although the pattern of shipments had. The obvious answer: Do a recheck. The postwar personnel shortage knocked down that idea.

That's when the C&O turned to Case for an answer. Churchman suggested scientific sampling. The C&O decided to try this out on less than carload lots, since these were the most complicated.

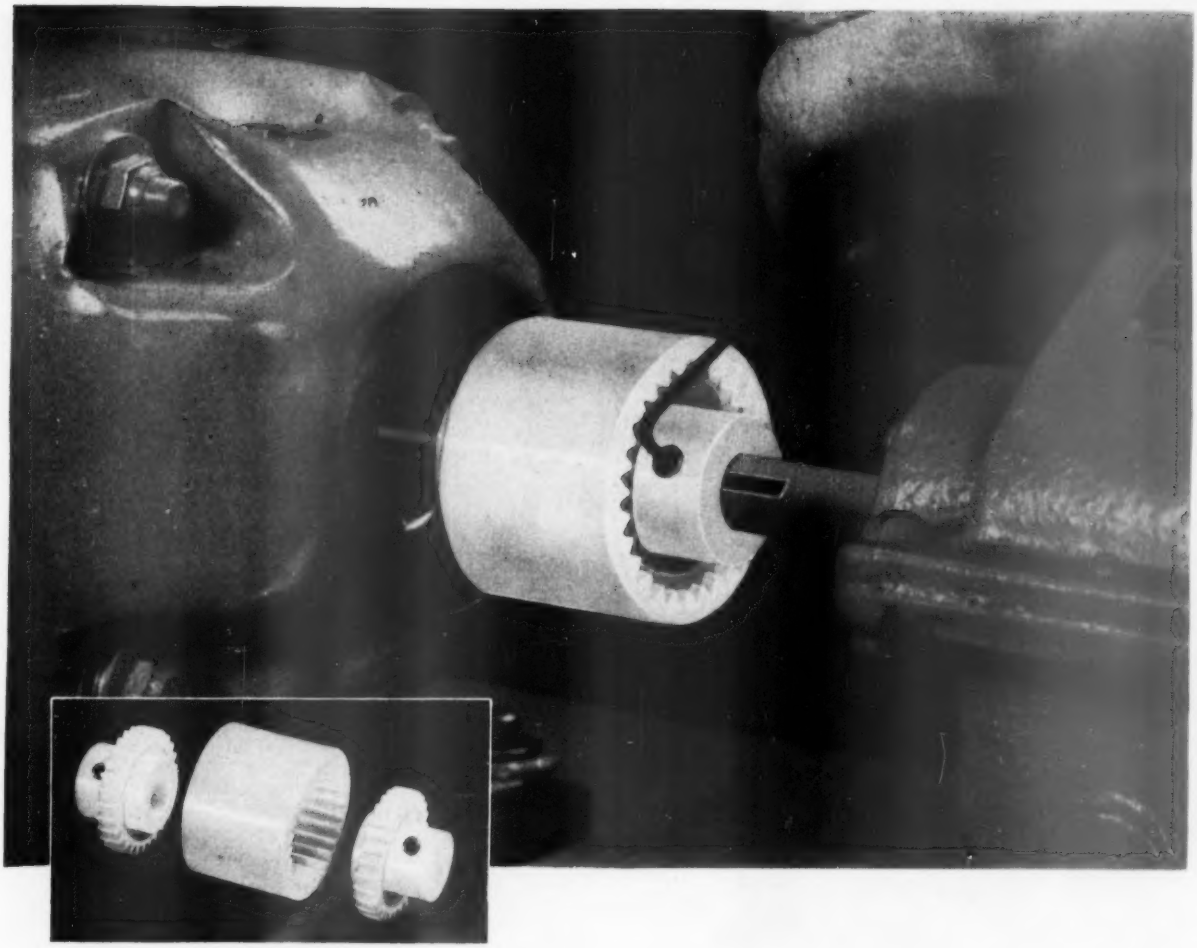
Churchman and his group were given the data on interline shipments between the C&O and the New York Central. The first thing they discovered was that few l.c.l. shipments were above $40. So they sorted out the waybills in definite dollar groups—the lowest containing the largest number of waybills. The number of items became progressively smaller as the dollar charges rose.

• **The Breakdown**—The Case people had to decide how much of a sample to take from each dollar category. They decided that, since there were only a few items in the highest dollar group, they would check those waybills 100%. It wouldn't take too much time, and a mistake could mean a lot of dollars.

The group with the largest number of items—the $5 category—got the smallest sampling, about 5%. Group II got roughly a 10% sampling, Group III 20%, and Group IV—next to the smallest—50%.

For an example to show how the method worked, Churchman cited a total of 5,000 waybills, representing $52,500. Over half of them were for insignificant amounts; the 3,000 waybills in the $5 category brought in only $6,000 revenue. But the 200 waybills in the smallest and highest category brought in $22,000.

Here's the approximate sample lineup used by Churchman: 150 waybills in the first group, then 100; 100; 150; and 200—the last a 100% sample. This breakdown meant that clerks had to



Couplings of resilient Du Pont nylon plastic run quietly... solve a driving problem

Flexible gear couplings used to connect shafts of fractional horsepower motors and driven equipment—such as pumps and generators—often prove troublesome. Shaft misalignment results in noisy operation and excessive wear. Under certain conditions abrasion and corrosive attack can severely shorten service life.

The John Waldron Corporation has now developed an improved gear coupling that overcomes these problems. In this design, the three components — the internally geared "sleeve" and two externally geared "hubs"— are molded of Du Pont nylon plastic, one of the Du Pont family of plastic engineering materials.

Du Pont nylon is resilient. It damps noise and vibration . . . absorbs shock loads . . . assures quiet operation. Du Pont nylon is strong, tough, durable . . . resists wear and abrasion often with little or no lubrication (couplings operated without lubrication for over 18 months showed no appreciable wear). Du Pont nylon is unaffected by water, oils, most common chemicals . . . is not subject to rust or electrolytic corrosion. Du Pont nylon will operate continuously to 250°F. It provides electrical insulation. And parts of Du Pont nylon can be economically mass-produced by rapid injection molding—cutting production steps and costs.

This is another of the hundreds of examples where Du Pont nylon plastic is contributing to improved performance in industrial parts. Perhaps it can be of value to you. For full information, write: E. I. du Pont de Nemours & Co. (Inc.), Polychemicals Department, Room 335A, Du Pont Bldg., Wilmington 98, Delaware.

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Every worker becomes "half-a man" when you let dust hamper his efficiency so that he does only half-a job. The wages you pay for skilled mechanics and technicians are partially wasted when dust stands in the way of top performance.

High efficiency dust control, as provided by DUSTUBE cloth-tube type collectors, can increase employee efficiency, decrease equipment maintenance, stop contamination of your product, and salvage valuable material.

Dustube's virtually 100% efficiency has solved many unique dust problems and has converted excessive losses into attractive profits.

For instance, one plant reports: ***"The Dustube has made our operations so much healthier and cleaner that it is indispensable from the standpoint of improved working conditions."***

Send for the 28-page Dustube Brochure showing typical applications in 18 major industries.

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COLLECTORS

check only 700 waybills, instead of 5,000.

In the Group I sample, it was found that from a dollar total of $300 C&O had $200 coming—or a ratio of two out of three. Projecting that ratio to the $6,000 total in Group I, C&O should get $4,000.

• **On the Nose**—How close was this to the actual figure? Ordinarily, the accounting would have ended right here. But because this was an experiment, Case also ran complete accounting checks during its research. The results very nearly matched. From one sample of 200—out of 1,500 actual waybills—the samplers estimated that C&O ought to receive $5,300 for the whole batch. The accountants' figure was $5,450. In another case, the estimate was $12,929; the actual amount $12,959. In some instances the error was only $1 on $50,000.

Even that small margin of error sounds like heresy to an accountant bent on balancing his books. But from the point of view of operating costs, C&O would be ahead even if it always came out on the short end of the sampling. And in practice, the Central would end up on the short end of the divvy just as often as the C&O.

• **Acceptance**—Thirty railroads have met to discuss use of this sampling method in interline settlements. Some of them want to start right away. It is possible that the whole industry may be using the method within the next six months.

If that happens, it will be possible at reasonable cost to set up new percentages every three months, or once a year, by using samples. Current financial control would be restored to a now loose operation. The trick in sampling is to develop a formula for picking the samples. That takes a mathematician, but once he has done his stuff a layman can pull the samples.

II. Sampling Inventories

At the Carnegie Tech meeting, a technique that is rather similar was described by E. T. Magruder of the Chesapeake & Potomac Telephone Companies.

He told how American Telephone & Telegraph Co. saves millions of dollars yearly by use of sampling in many fields. He said that in his own companies a sampling-based inventory cost one-twentieth of a regular complete inventory, yet offered the high accuracy needed in a regulated industry.

In one case a sample of 5,000 was drawn from 200,000 poles to test the accuracy of figures covering 12 aspects of each pole—including age, timber, ownership, location by area. Four newly hired girls were taught the basic theory of sampling and were given some fast

"Hold it"!

What does he mean, "Hold it"? Anyone can see the smoke! What the firemen on the truck don't know is that an automatic sprinkler system has already extinguished the fire before the flames had a chance to spread. All that's left of the fire is the charred, smoldering remains in a container used for oily rags.

It happens every day. But so do *disastrous fires* — in factories, warehouses, stores, hotels, hospitals and schools where there is no Grinnell Automatic Sprinkler System to keep the flames from spreading.

The time to act on Grinnell Protection is *now* — before fire burns you out or cripples your business. Grinnell Automatic Sprinklers stop fire at its source, wherever and whenever it strikes, night or day, with *automatic* certainty. Seventy-five years experience proves this.

CONSIDER THE COST OF FIRE

No indemnity check can take the place of hard-to-get equipment. No indemnity check can replace burned-out records. No indemnity check can bring back lost customers, or skilled workers who have strayed to other jobs.

The tragedy of it is, if you have fire insurance, you're probably paying for Grinnell Fire Protection anyway. *So why not have it?* A Grinnell Automatic Sprinkler System often pays for itself in a few years through reductions in insurance premiums. Write for booklet on Grinnell Automatic *Spray* Sprinklers — new in method, spectacular in performance. Grinnell Company, Inc., 265 West Exchange Street, Providence, Rhode Island.

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Here's a
WEBSTER ELECTRIC **Teletalk®**
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• This beauty gives all the step-saving convenience of two-way conversation between offices, rooms or departments—plus an ever-dependable Sessions electric clock!.....

Beautifully styled walnut-grain plastic cabinet blends with the finest office or home furnishings. Capacity, up to 10 stations. Does two jobs—*saves* time and *tells* time!

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WEBSTER ELECTRIC **Teletalk®**
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• This handsomely designed, compact new Teletalk brings quality intercommunication within reach of small and medium-sized businesses . . . professional offices . . . institutions and homes. Cabinet is in walnut-grain plastic; capacity, up to 10 stations. A really big value in step-saving convenience.

Genuine Teletalk Quality at surprisingly low cost!

• These new models offer the same smart styling, dependability and step-saving convenience that have made Teletalk the recognized quality leader in intercommunication. Just press a switch and talk; it's that easy to reach the key people in your organization or members of your family. Send coupon for full details.

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Send me, without obligation, information on the two new moderate-priced Teletalks—also name of dealer nearest me.

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training. Then they went to work on the pole sample. As they went along, their accuracy was tested by a sampling within a sampling. No errors at all were found.

• **Truer Than Truth**—It's that kind of accuracy that the samplers cite to bolster their claim that a scientific sampling can actually be more accurate than a complete inventory. The gimmick: With fewer items to handle, the chance of error is reduced.

For example, one of the Chesapeake & Potomac companies started a similar pole inventory on a complete rather than a sample basis. By the time eight people had worked for five weeks, so many errors had cropped up that the whole job had to be junked. Then the same crew of workers was set to doing the job by sampling. Result: The work was done both more quickly and more accurately.

III. Other Methods

Sampling, of course, is only one of the mathematical methods now coming into use.

Arthur D. Little, Inc., has put on display what it believes its scientists can do by operations research—a method that ends up by presenting management with quantitative answers, and often with a set of alternatives from which an executive can more realistically make up his mind. Last week, Little's OR group gave case histories on marginal sales costs, prediction of response to advertising, and large-scale record keeping.

• **Down to Earth**—A different mathematical approach was used in each case, but all had one characteristic in common: They put into figures and formulas things that management had considered not measurable, and therefore a matter of guesswork or savvy intuition.

Thus there's the OR research case on advertising presented by John D. Lathrop of the Little firm. Lathrop used a ranking system—a method that hasn't progressed so far as sampling in industry.

In this case the result was that the advertising manager was given a quantitative estimate of the relative importance of such things as: (1) sales potential, (2) advertising yield—the number of dollars it would take to win a customer, and (3) the sales death rate, or natural decline of a product's sales as customers drift away.

At this stage, the business use of more advanced techniques such as ranking or the theory of games is still mostly experimental. The mathematicians can come up with figures; they can't yet always prove that the figures deserve to be trusted. But that, they think, is only a matter of time.

"We saved $1200 yearly on window breakage with PC Glass Blocks

. . . increased the value of our building 25%"

says

S. A. Norris, Jr.

Co-Chairman, Management Committee

Homestead Valve Mfg. Co.

EMPLOYEES complained of the drafts. Heating costs went through the roof as the wind seeped in around the warped and rusty window sash at the Coraopolis, Pa. plant of Homestead Valve Manufacturing Company.

After careful investigation, Homestead Valve found that the best way to correct these problems was to remove the old windows and install PC Glass Blocks.

Now, the breakage problem is gone. There are no more drafts, and heating costs have gone 'way down. In fact, the high insulating value of PC Glass Blocks (equal to an 8-inch masonry wall) allowed Homestead Valve to remove ⅓ of the radiators from the plant. The expensive job of painting and puttying sash and cleaning small individual panes of glass is gone, too.

PC Glass Blocks can do the same money-saving job for you and in addition, improve the morale and efficiency of your employees through improved daylighting and the elimination of drafts.

PC Glass Blocks are available in a wide range of decorative and functional patterns. The functional designs are available for above or below eye level, for northern or sunlighted elevations. They filter the daylight . . . distribute soft, glare-free illumination to all parts of the room.

Fill out the coupon and we'll send more information by return mail.

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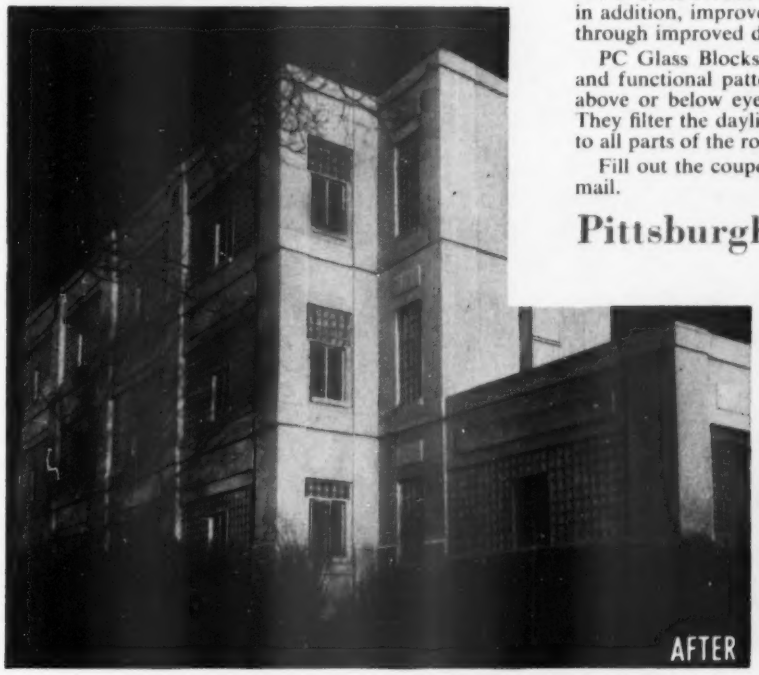
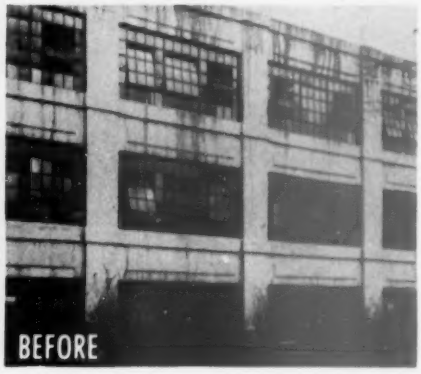
PITTSBURGH 22, PA.





Here's what you get with PC Glass Blocks

BETTER DAYLIGHTING—Functional patterns direct daylight to reflective ceiling, or distribute it uniformly throughout the room. More light, less glare.

REDUCED HEATING & COOLING COSTS—Glass block panels have insulating efficiency of a solid 8-inch masonry wall.

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NO "EXTRA" EXPENSES—Unlike conventional windows, panels of PC Functional Glass Blocks seldom if ever need expensive shades, blinds or louvres.

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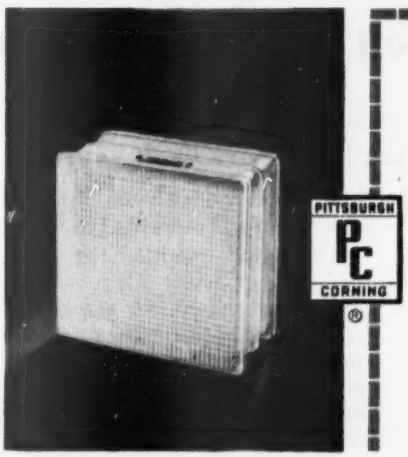
LESS OUTSIDE NOISE—PC Glass Blocks are hollow. The internal dead air spaces reduce sound transmission.



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☐ Send engineer to discuss specific problem.

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"Why don't you talk to the people at Chase?"

"Chase's Investment Service Department handles hundreds of problems just like yours each year."

"You don't seem to have your mind on the game, Ed. What's bothering you—trouble at home?"

"No, Bill, nothing like that. But with this new job of mine I no longer have time for my own affairs—my investments, for example."

"Why Ed, I was in the same fix some years ago, until a friend of mine told me about the Chase National Bank's investment service. I'm glad he did, for it was just what I needed."

"Oh sure, I've heard of that Chase service. But I thought it was only for corporations—and big ones at that."

"Not at all! Most of their customers are individuals – investors with holdings of $100,000 and up. What's more, management of your portfolio would be guided by the policies of people at Chase who arrange programs for some of the biggest investment funds. Men who spend all their time studying trends in different industries and their effects on security prices would be working for you. And believe me, they can do a real job."

"Bill, that sounds fine, but isn't it awfully expensive?"

"You're in for a surprise on that score, Ed—and a pleasant one. Why don't you drop down and talk to the people at Chase?"

(Advertisement)

A few days later I did talk to Chase

"An officer of the Investment Service Department and I talked over my finances—in strictest confidence, of course. He asked for a list of my holdings which I sent him.

"About a week later, I got Chase's preliminary report. I was pleased by the thoroughness of their planning.

"For example, they didn't just tell me what they thought of my securities. They told me how they fitted to my particular plans and problems. The plan they submitted was actually tailor-made to fit me.

"To make a long story short, I signed up for Chase's Investment Advisory Service. Right away I found out that Chase gives you the personal attention and informed advice that make the difference between a boxful of securities and a *real* investment program.

"I like the way Chase carefully considers my objectives before making recommendations. Long-range capital growth is an important part of my program but, for me, conservation of capital with a reasonable income return must come first.

"To sum it up, I know now that 'It pays to do business with Chase.'"

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White Motor Co. and Its President:
A Typical Employment Contract

July 5, 1950

Mr. Robert F. Black, President,
The White Motor Company,
Cleveland, Ohio

Dear Mr. Black:

This will confirm the agreement between you and the undersigned ("The White Motor Company") as to the terms of your future employment, as follows:

The management period shall be the period commencing on July 1, 1950, and ending on December 31, 1954, unless extended by amendment to this agreement.

2. The White Motor Company also hereby agrees to employ you for a period of six (6) years, beginning immediately upon termination of the management period, to render advisory and consulting services to The White Motor Company, its officers and directors. Said period of advisory services is hereinafter called the advisory period.

3. You agree that, throughout the management period:

(a) You will render your services solely and exclusively to The White Motor Company and its subsidiary and affiliated companies; and

6. (a) For your services and promises during the management period, The White Motor Company agrees to pay you compensation as follows: If you shall be, during any part of the management period, an officer of The White Motor Company, The White Motor Company agrees to pay you for said part of the management period the compensation fixed for such officer during the time when you serve as such officer, or $6,250.00 a month, whichever is the greater; provided, however, that your compensation for any calendar year shall in no event be more than $120,000.00. For the part (if any) of the management period during which you shall not be an officer of The White Motor Company, The White Motor Company agrees to pay you monthly the sum of $6,250.00.

(b) For your services and promises during the advisory period, The White Motor Company agrees to pay you $1,500.00 a month.

Deferred Pay: How and Why

When General Dyestuff Corp. charged Veronica Chemical Co. a few weeks ago with hiring away a dozen of its executives (BW—May16'53,p122), the action pointed up one of management's most vexing problems: How do you attract and hold key men in times like these, when high salaries are eaten away by taxes? One answer shows up in the deferred pay contract above.

Under it, Robert F. Black is assured of a specific income for at least four and a half years (mid-1950 to Dec. 31, 1954) while he's in active management. Then, for specific promises by Black, the White Motor Co. agrees to pay him $18,000 a year for six years after he leaves active service. The active management period can be extended.

Added on to his present salary that $18,000 a year wouldn't mean much in take-home pay or as a way to accumulate savings. But later, in a period when his total income may be in a much lower bracket, he'll owe smaller taxes on the deferred pay than if it had come as a straight salary boost.

Besides, the company gets assurance it will have to call on Black's know-how after he leaves. He promises (1) to act as a consultant; (2) not to work for a competitor; (3) to serve on the board if elected without more pay; (4) he won't take another job that will prevent his acting as a consultant.

Such employment contracts—which tie a man to a company for a number of years—are gaining steadily in popularity. Many studies of the subject have been made in the past year. Two of the latest: a 1953 revision of Executive Severance Contracts (Koster, Dana & Co., New York: $5); and Pay Contracts with Key Men, by New York lawyers V. Henry Rothschild II and William J. Casey (Business Reports, Inc., Roslyn, N. Y.: $12.50).

• **The Law**—Though the number of deferred pay plans is growing, according to these two reports, all of them are

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uncertain as tax risks. There's the possibility that the entire additional income spaced out after retirement may be taxed at one shot, retroactive to the date when the contract was signed or to the year when he received the first payment.

So far, the Bureau of Internal Revenue hasn't tipped its hand on how it feels about deferred pay schemes. Many lawyers feel that if the contract is drawn up to provide for consultation after the executive retires, and if it prevents him from serving with a competitor, it will stand up in court. But there hasn't yet been a clear-cut test case to back up this opinion.

That situation may change soon. Top men in the Bureau of Internal Revenue are looking over the results of a three-month study on deferred pay plans. A BIR policy statement on the problem isn't far in the offing.

Meantime, many companies are going right ahead with the idea. One recent example: Charles F. Johnson's contract with Endicott Johnson Corp., which was up for renewal in October, 1952, has been extended on the same basis as the original. It calls for annual payment of $30,000 for a decade after Johnson ends his active service with the corporation.

• **Variations**—Lawyers Rothschild and Casey say that in addition to straight deferred payments, many flexible contracts are drawn up to protect executives against economic changes such as inflation. Leonard F. McCollum's 10-year contract with Continental Oil Co. has an escalator clause that provides for an "inflation adjustment" up to $50,000 on his annual of $125,000.

Some contracts go beyond this. Retired executives at Foote Brothers Gear & Machine Corp. will get a hike in their deferred pay when the operating officers have had their salaries boosted. According to Rothschild and Casey, in the Foote arrangement "the trading power of the active executives protects the retired men from inflation."

• **Company's Hedge**—Deferred contracts aren't one-sided agreements. Companies also get a hedge. In addition to the standard provisions requiring consultation and barring service with a competitor, some contracts give the company an out in case profits take a tumble. American Ship Building Co. has an arrangement with its president, W. H. Gerhauser, that works this way: For 10 years after he retires, he'll get an annual sum equal to 30% of the average yearly pay in the three years preceding his retirement. The contract also spells out that the company can renege on any annual payment due him if in the preceding two years it has failed to earn an operating profit.

Then, too, other agreements save the company from shelling out the full amount if the executive, on retiring, gets an outside income exceeding contract limitations. A Gimbel Brothers contract provides for a reduction in deferred pay if the executive goes elsewhere after ending his active service with Gimbels, and earns more than 75% of his average yearly pay in his last three years with Gimbels. With safety measures like these, some businessmen think that deferred pay schemes pay off both company and executives. Koster points out that with a deferred pay contract, the company can make an attractive offer to its key men on an individual basis. It easily has the advantage, says Koster, over pension plans—which, to qualify with BIR, have to cut in all qualified employees on a share of the pie. This either reduces the kitty available for key executives or makes the plan staggeringly expensive for the company.

• **Dissenters**—Still, not all companies agree on the drawing power of a deferred pay scheme. Standard Oil Co. (N. J.), for one, isn't sold on the idea. It likes to think executives are working for Standard because they want to, not because they're bound by a contract. A contract can't make a man work anyway, if he's not happy with the company.

There's also a feeling among other companies that it's wiser to wait until a man is actually retiring before making a deal to hold on to his knowledge and experience. These companies see no reason to make commitments years before all the results are in.

Add to these objections the tax risk involved, say the dissenters, and you have a device that ought to get a careful going-over before it's adopted.

MANAGEMENT BRIEFS

Corporate donations to education got a pat on the back from a New Jersey court last week. The court ruled against a group of stockholders of A. P. Smith Mfg. Co., East Orange, N. J., who were challenging the company's right to give $1,500 to Princeton University (BW—Dec.27'52,p89). Said the court: "Such giving . . . may well be regarded as a major, though unwritten, corporate power" that "amounts to a solemn duty."

•

Donald B. Woodward, former finance editor of BUSINESS WEEK and now vice-president for research at Mutual Life Insurance Co., has been named chairman of Vick Chemical Co.'s finance committee.

•

Thomas F. Patton has been named assistant president of Republic Steel Corp. The newly created post will make Patton the third-ranking officer.

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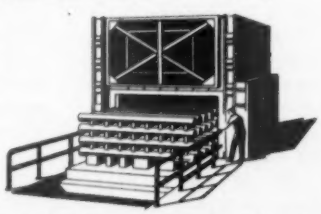

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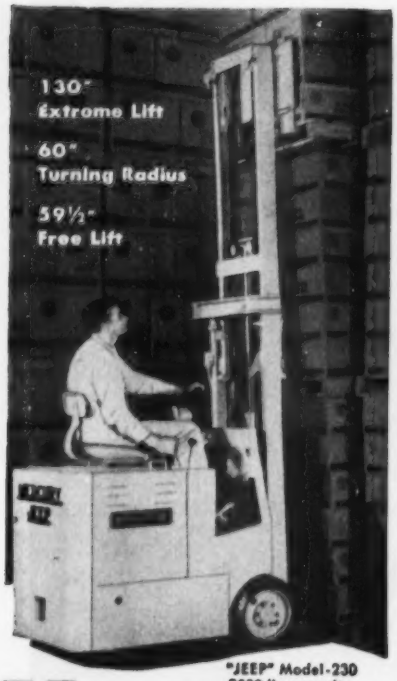

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LOCAL BUSINESS

Uneven Exchange?

DALLAS—The Chamber of Commerce and American Airlines have both cooled off a little in their heated argument over American's switching flights from Dallas' Love Field to Fort Worth's new Amon Carter Field (BW—May16'53,p136).

When the hassle began, American announced it would petition the Civil Aeronautics Board to determine whether or not it was giving Dallas adequate service. And Stanley Marcus, chairman of the chamber's aviation committee, assured C. R. Smith, American's president, that "we will see him before CAB."

But they have thought better of it—because both felt that any CAB proceeding would take too long, and possibly also because neither one was too sure how CAB would feel about it. Smith wrote the chamber suggesting face-to-face meetings. "It seems to me," he wrote, "that this is something which could be settled without outside aid if we both work at it." He said also that he had told his Washington office not to file the petition with CAB for the time being. Talks began last week.

After last Saturday's meeting, American announced that it was returning to Love Field the one flight that Dallas was most upset about losing—the nonstop from New York that arrives at 5:20 p.m. It also returned a night flight from New York and intermediate points. In return it switched two other flights to Carter. This means that Dallas now has both nonstops from New York again; it has kept both nonstops to New York right along.

But even though Dallas came out ahead in last week's swap, it's still dissatisfied. And Fort Worth is really mad. From the beginning, it has felt that American didn't transfer nearly enough flights from Love to Carter in the first place; taking away the one New York nonstop it did get isn't calculated to make it feel any happier.

For years, the Fort Worth people say, they had to go all the way to Dallas to get any through planes because their Meacham Field couldn't take four-engine transports. The new field, they emphasize, is almost exactly midway between the two cities (map, above). So, they ask indignantly, why should Dallas object to meeting them halfway?

The answer, as everybody in Texas knows, is simply that the new field is on the other side of the county line.

Catching Up

TOLEDO—This city has always prided itself on being a transportation hub; it claims to be the nation's third-largest rail center, the Great Lakes' second-busiest port. But its air transport has not kept pace.

Three years ago Toledo had 38 flights daily; today it has only 22, with further cuts predicted. Reason: Its obsolete airport could not be expanded because it was bounded inflexibly by the Pennsylvania RR's main line and the Chesapeake & Ohio RR yards.

Though the need for a new airport has been apparent for years, the City Council has discussed, wrangled, procrastinated, spent nearly $100,000 on surveys—and accomplished nothing. Last fall, tired of the delay, six of Toledo's big manufacturers—Champion Spark Plug Co., Electric Auto-Lite Co., Libbey-Owens-Ford Glass Co., Owens-Corning Fiberglas Corp., Owens-Illinois Glass Co., and Willys-Overland Motors—got together quietly to do something.

Pledging up to $100,000 each, they scoured the city for a suitable site, picked 1,100 acres on the western edge of the city, and, piece by piece, and in complete secrecy, bought them. Then they went to the City Council, plat in hand, and said, in effect: "Here it is; you can have it for its $490,000 cost." The council took it. Last week, Toledo

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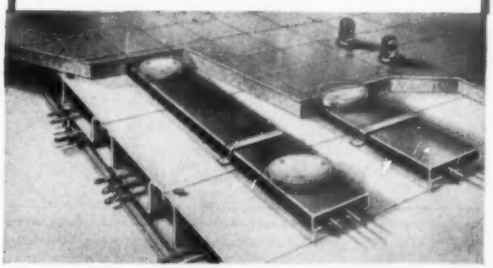

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METALS

Beryllium copper makes sensitive phonograph needles, sturdy record changer parts, reliable TV sets. This home entertainment center illustrates the wide use made of versatile Berylco. For parts and key numbers, see below.

A NEW WAY TO SOLVE OLD PROBLEMS

A proved design material, beryllium copper has enabled many difficult or "impossible" jobs to become standard production items

It took nearly a century and a half for the element beryllium to emerge from its position of obscurity in the laboratory, where it had been hidden since its discovery in the 1790s. In the last 20 years, however, it has written a brilliant commercial history as an alloy of copper.

Beryllium does wonders for copper. Through a simple heating process, for example, beryllium copper can be given the strength and hardness of ordinary steel. Yet it still retains a high degree of electrical and thermal conductivity.

The unique qualities of Berylco beryllium copper—its combination of strength and conductivity, its elasticity, its fatigue and endurance strength, its ready formability—have enabled manufacturers in nearly every industry to make better products cheaper. It takes only a glance at this home entertainment center—a far cry from the player piano in the 1910 parlor—to see how widely, and for what various reasons, Berylco has been used.

Beryllium copper is no longer a rare alloy. Domestic mining has reduced dependence on overseas sources. Production facilities have been enlarged. And manufacturers are fortunate in being able to draw on the scientific knowledge and practical know-how of the world's largest producer of beryllium copper. Write THE BERYLLIUM CORPORATION, Dpt. 3-E, Reading 20, Pa.

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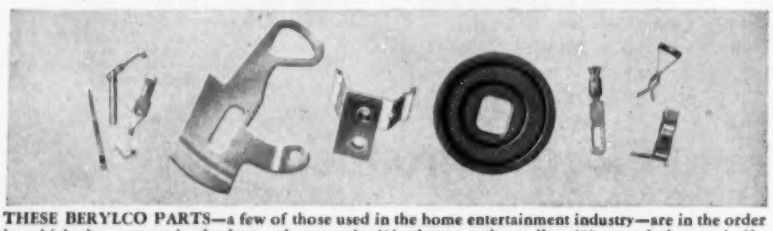


THESE BERYLCO PARTS—a few of those used in the home entertainment industry—are in the order in which they appear in the large photograph: (1) phonograph needles; (2) record changer knife; (3) TV tuner clip; (4) camera baffle; (5) tube socket contact; (6) tuner clips.

voters, by better than 2 to 1, approved a plan to spend $3½-million from city funds to build a completely modern airport on the site. It will be ready around the end of next year.

HONOLULU—The sugar business, one of Hawaii's mainstays, has historically been run by a system unique to the islands—the agency system. Under it, five agency companies, known as the Big Five, represent and manage most of the affairs of Hawaii's 28 sugar-plantation companies.

Now this entire traditional agency system is under attack by a group of minority stockholders in one of the plantation companies, Olaa Sugar Co., Ltd. The group is headed by Ingram M. Stainback, former governor of Hawaii and now a member of the Territorial Supreme Court.

Olaa has an interlocking directorate with the agency that handles its business, American Factors, Ltd. For its services, Amfac charges Olaa a fixed percentage of Olaa's income, plus special charges.

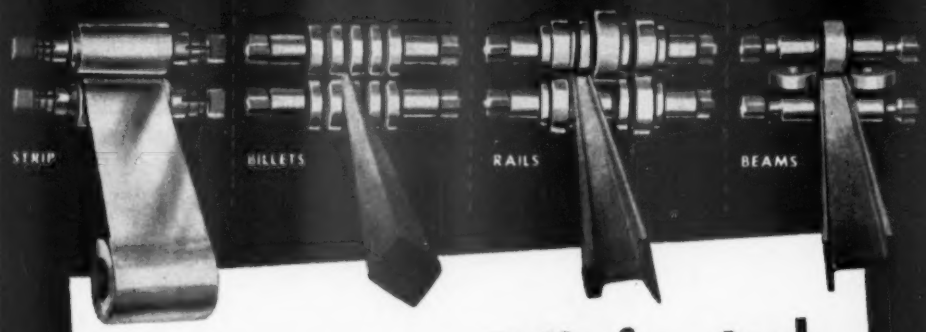
Stainback's group contends that the directors are bleeding Olaa for the benefit of Amfac, and that the fixed-percentage arrangement is unreasonable in view of the fact that Olaa hasn't been able to pay a dividend in 15 years.

At a recent stockholders' meeting, the directors were upheld; the dissident group hasn't yet decided whether or not to take court action. If it does, the suit may be based on a recent opinion by Stainback himself in another case—that, while interlocking directorates are legal, the burden is on the directors themselves to prove they have represented both companies fairly.

It's All the Same

CHEYENNE—The Union Pacific's crack trains have always taken about an hour and 20 minutes to travel the 56 mi. westbound from here to Laramie. But the line's fast eastbound trains have made it in an hour and 10 minutes. The reason: Westbound trains have had to climb a 1.55% grade to top Sherman Divide, near Laramie. Eastbound trains, however, go downgrade on that stretch.

From now on trains will take roughly the same time in both directions. UP has just completed a new $16-million single-track line between the two cities, which runs well south of the main line in the much-flatter country near the Colorado state line. So, although it's 9 mi. longer than the main-line route, the new line will cut westbound running time by about 10 minutes. Through westbound trains are already using the new track; eastbound trains will continue to use the old, steeper route.



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326,000,000	Ohio Turnpike
285,000,000	Garden State Parkway (N. J.)
276,500,000	Pennsylvania Turnpike
96,000,000	West Virginia Turnpike
75,000,000	Maine Turnpike
38,000,000	Oklahoma Turnpike
19,350,000	Nashua-Concord Toll Road (N. H.)

...and of Toll Bridges

BONDS (sold and proposed)	PROJECT
$137,000,000	Delaware River Port Authority
96,000,000	Mackinac Bridge Authority (Mich.)
43,925,000	Chesapeake Bay Bridge (Md.)
21,250,000	Lower Tampa Bay Bridge (Fla.)
20,800,000	Tacoma Narrows Toll Bridge (Wash.)

Investment Billions Ride the Turnpikes

No one in Wall Street was astounded last week when a nationwide underwriting group casually announced the public offering of $100-million of Delaware River Port Authority revenue bonds—to build a new $90-million bridge and refund some outstanding securities.

Use of tax-exempt revenue bonds for financing new multimillion-dollar toll bridges and high-speed cross-country motor expressways is spreading fast.

• **"Make Work"**—Close to $1.8-billion of such issues—created by autonomous state commissions—have been authorized or sold in the 18 years since the modern motor turnpike was conceived in Pennsylvania as a depression-time "make work" project.

As long as expressways—and bridges—carry anticipated traffic loads, tolls for servicing their bonds will roll in with monotonous efficiency.

If, on the other hand, traffic should slump, or be diverted from one high-speed pike to another newer one, the losing road—and the holder of its bonds—could find themselves in a bit of hot water.

Auto registrations and highway use are still on the rise. No serious trouble spots have appeared, although Maine's first super-turnpike took longer than sponsors anticipated for traffic to reach required volume. Also, underwriters balked at taking on Mackinac Bridge bonds until Michigan—the beneficiary state—guaranteed annual repair and maintenance.

With 28 states—possibly more—operating or planning toll projects, however, the revenue bond buyer in the future may have to exercise more than

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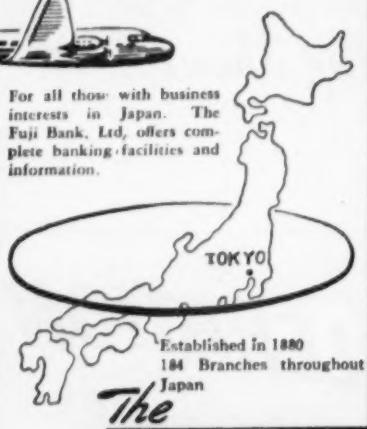

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In spite of this outwardly agreeable picture, you feel, way down deep, that there must be a way to spur these men to greater heights.

The accomplishment of this dream is no simple matter. Something beside pressure, or cajoling, or conversation is needed to enliven this group.

If the above describes your situation and feelings, and if you would like to double the effectiveness of your staff, from your first assistant to and including the production foreman, ask us about our *Staff Control* routine.

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cursory care in selecting such investments.

• **Lean Times**—It was in lean 1935 that Pennsylvania legislators began a study of feasibility of a 160-mi. turnpike between Pittsburgh and Harrisburg. Such a road, it was reasoned, would provide work for the jobless, and could be paid for by tolls collected from its users.

A survey of the route was made (with Works Progress Administration funds), and in 1937 a Turnpike Commission was formed. Then the plan hit a snag.

No one wanted turnpike revenue bonds. The idea didn't appeal to investors of the 1930s. Motor traffic wasn't what it is now—nor was it what it had been before the 1929 Wall Street crash. Grass was growing in many once-busy streets.

• **Federal Help**—Finally the U.S. stepped in and gave the Pennsylvania Turnpike its starting push. The federal government, through the Public Works Administration, granted the Turnpike Commission 45% of the cost of the road. Then, through the Reconstruction Finance Corp., it loaned the other 55%. The road was built, and opened in 1940. (Cost of the first government-financed 160 mi. of the now 267-mi. road was $40.8-million.) The four-lane divided roadway, with its easy grades and seven tunnels through steep mountains, proved popular, profitable—and eventually desirable to investors.

The 327-mi. pike of today was over the years financed by sale of $277-million of toll revenue bonds. Ohio on one side and New Jersey on the other are building super toll roads to link the Pennsylvania system with their own projects.

• **Roundup**—The chart shows how the toll revenue bond has become big business. Sale of around $500-million bonds is planned to finance the New York State Thruway, which will stretch from Buffalo to New York City. New Jersey will market altogether at least $355-million for its turnpike, and another $285-million for the Garden State Parkway. (Around $30-million more will be spent by Pennsylvania and New Jersey jointly on a linking bridge with approaches.)

Ohio's outlay for a toll turnpike is $326-million, West Virginia will spend $96-million, and Maine at least $75-million. In Connecticut (not on the chart) new tollways to cost $213-million are in the works, once legislative details have been worked out.

Oklahoma has a $38-million expressway, and Gov. Turner has signed a bill authorizing construction of three more Sooner toll roads. New Hampshire has laid down its Nashua-Concord expressway at a cost of nearly $20-million.

Also on the way: Governor Kohler of Wisconsin has signed a bill to create a Wisconsin Turnpike Authority; Midwest road men are talking of a new toll pike to link Detroit and Chicago.

Toll bridge projects are afoot today in almost every region where expensive river or bay crossings are required. The biggest individual project is the Delaware River bridge between Philadelphia, Pa., and Gloucester, N. J. (represented in the bond offering last week).

In some cases, such as the Jacksonville Expressway in Florida, bridges with tolls will help pay for cost and upkeep of both the river crossings and the roads that connect with them.

• **Less Griping**—The motorist who pays a toll grumbles less than the average man paying an average tax. The car owner figures that the money he pays in tolls goes directly for highway upkeep for his benefit, and not for other nonhighway projects.

However, he long since has given up hope that the tolls being collected today will ever be reduced or eliminated.

Around New York City, for instance, the Port of New York Authority, which operates the George Washington Bridge across the Hudson River and other metropolitan bridges and tunnels, has backed away from lowering the 50¢ passenger-car toll on the profitable G.W. span, or eliminating the 50¢ tab on the Holland Tunnel, which is now completely paid for.

Instead, the Port Authority uses the surplus receipts collected to pay deficits on less-traveled crossings and for such subsidy jobs as improving Idlewild International Airport, the Authority's sprawling air terminal.

• **Going Up**—Another case in point is Philadelphia, where the Delaware River Port Authority now is seeking to raise the passenger car toll on its 27-year-old Philadelphia-Camden span from 20¢ to 25¢.

The boost will be in sharp contrast to the promise when the bridge was opened in 1926 that "it would be free of tolls within 25 to 30 years."

The average taxpayer, however, accepts broken tax and toll promises, as New Yorkers have the sales tax enacted during the depression of the 1930s "to aid the unemployed." The big unemployment problem has disappeared, but not the tax.

• **No Ceiling**—Against such a background, autonomous highway and bridge authorities seem to have unlimited horizons for building more and more new projects, then setting up toll booths to pay for them.

The investor, however, must keep this in mind: If the revenue bonds behind a toll road or bridge are to remain sound, the project must continue to "pay off" over the period of amortization. There must be the probability of sustained, if not rising, demand for the thoroughfare, with motorists

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willing to pay a premium to use it.

"A rising" demand would be safer. If long-term inflationary trends continue, maintenance and repair costs are likely to move upward still further. Already they are more than double prewar.

The refusal of underwriters to market the $96-million Mackinac Bridge issue (a bridge across the Straits of Mackinac between the upper and lower peninsulas of Michigan) until the Michigan legislature had voted to provide $417,000 annually for operation and upkeep indicates a growing wariness on the part of investors. Without the guarantee, the Mackinac authority's proposition failed to arouse a single nibble.

• **Prudence**—The long-term prospect is: more and more toll roads, and more and more toll bridges—until the nation is fairly completely linked with expressways.

The investor is going to be asked to supply the funds.

If he chooses toll revenue issues with the judgment of a prudent man, a vast new and welcome resting place for idle funds in both institutional and individual hands is in sight.

Home Loans Still Difficult

Boosting of FHA and VA mortgage rates fails to bring more money into the market. Next month or two expected to bring a clear picture.

Stepping up the permissible rates for Federal Housing Administration and Veterans Administration loans to 4½% has not proved a magic cure-all for the difficulties of home financing. The hikes brought mortgages into line with the rates on other kinds of loans, but they did not bring more money into the home loan market.

That's because demands for credit remain heavy, in a continuing boom period. Competition for loan funds goes on, though the money supply might be called adequate, if not ample. Lenders can be selective, and home mortgages have to compete with other types of loans—some of them more attractive, especially to large lending institutions.

• **Clarification**—Builders and lenders alike think that the next 30 to 60 days will bring a clearer picture of the effects of the FHA and VA rate boosts. They point out that at the moment the home mortgage business is affected by the unsettled state of the general money market.

Thus the Federal National Mortgage Assn. has announced that it will not resume purchases from lenders of FHA and VA mortgages, even at the higher rates, until the secondary mortgage market has stabilized. Fanny Mae could make no other decision, with only $170-million left for over-the-counter buying of nondefense housing mortgages. Once the market gets back on an even keel, Fanny Mae aims to put both its buying and selling policies on a going basis that will utilize available resources to stabilize home financing.

• **Settling Down**—The decisions involved in that probably won't come for months. But the national money market is expected to settle down more quickly, and with it the mortgage business.

The situation should clear up in two important respects within a month or two:

• Long-term government bonds bearing 3¼% are expected to stabilize roughly at par.

• Builders and lenders have reason to believe that within 60 days government actions will have eased the market both for financing in general and for home mortgages—within the limits of a hard money policy.

The trade believes that the Administration has no intention of letting a tight market get tighter, and that the Federal Reserve Board plans to expand bank lending capacity to take care of increasing demands of business, but not beyond actual needs.

• **Applications Up**—Home financing applications for both VA and FHA loans have gone up of late. In the month or two preceding the rate increases, a good part of the new business was on a conditional basis, to take effect at the highest permissible rate when the loan was closed. Now lenders and builders expect the volume of GI and FHA loans to increase further in the next 60 days.

Among the lenders, savings and loan people gave the most enthusiastic reception to VA and FHA rate increases. They talked of 1.2-million housing starts this year. Most savings and loans are taking VA 4½s at par, but they must work off their commitments for conventional loans before they can switch to greater volumes of GI and FHA mortgages. The associations handle one-third or more of the nation's home mortgages.

Builders and big lenders are more conservative in their estimates of new house construction this year. The National Assn. of Home Builders still talks of 1-million new units, if the mortgage

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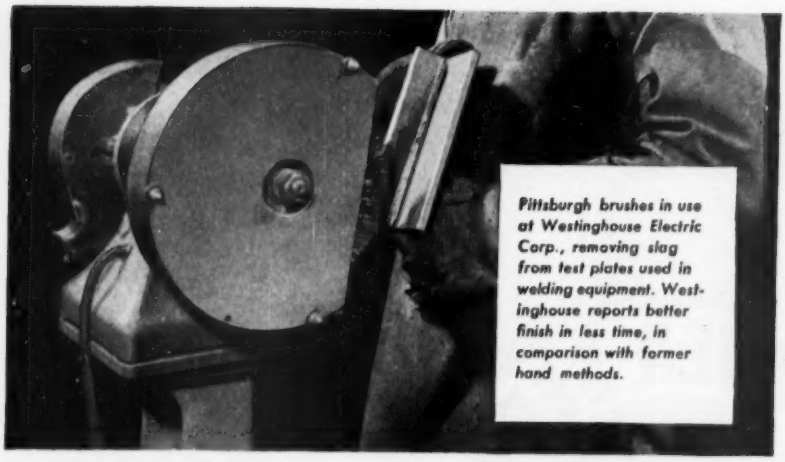

Pittsburgh brushes in use at Westinghouse Electric Corp., removing slag from test plates used in welding equipment. Westinghouse reports better finish in less time, in comparison with former hand methods.

Replace hand finishing with power-driven Pittsburgh Brushes for

Better Cleaning Lower Labor Costs Fewer Rejects

—as these companies did:

Removal of imbedded slag in welding test plates formerly was done by hand at the Westinghouse Electric Corp., Trafford, Pa., using a wire brush and welder's hammer. Pittsburgh brushes, powered by a ½ h.p. motor, now remove more slag in less time, and produce a better finish. In addition, Westinghouse reports their Pittsburgh brushes "stand up better than average in use."

Complete cleaning of dried concrete, rust and scale from steel frames used in concrete forming is essential prior to re-using the forms. Pittsburgh wire brushes were installed at the Universal Form Clamp Co., Chicago. Working on a conveyor-fed machine, the brushes now remove all foreign material at a rate of 50 pieces per hour, replacing former laborious hand brushing and scraping.

De-scaling preheated bar stock at the Dominion Forge & Stamping Co., Ltd., Canada, was formerly done by hand scraping. This never did a complete job, and inclusions resulted which produced defective forgings. Pittsburgh brushes, on specially-designed machines, now do the job, and have "increased efficiency, decreased the amount of scrap, improved work quality, and saved labor."

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market clears up as expected. Insurance companies look for about 1.1-million. The big companies are making more home loans now than last year, but they are still heavy on conventional mortgages.

• **Tighter Rule**—Most housing people think that Fanny Mae's withdrawal from the market will have little effect on home financing this year. Only the big builders see any hardship in VA's recent tightening of regulations requiring a builder to certify that he has not paid or absorbed any charges or fees beyond those authorized. The new rules appear to bar conditional arrangements with banks that help builders get firm mortgage commitments to start large new developments. These arrangements —usually for about 5% payment if the builder fails to place the final mortgages elsewhere—are rarely, if ever, enforced. Builders find other lenders to take the mortgages.

The new regulations are not much different from FHA rules in effect for years. Housing officials don't expect it to block project financing by big builders even in areas where mortgage money is scarce.

FINANCE BRIEFS

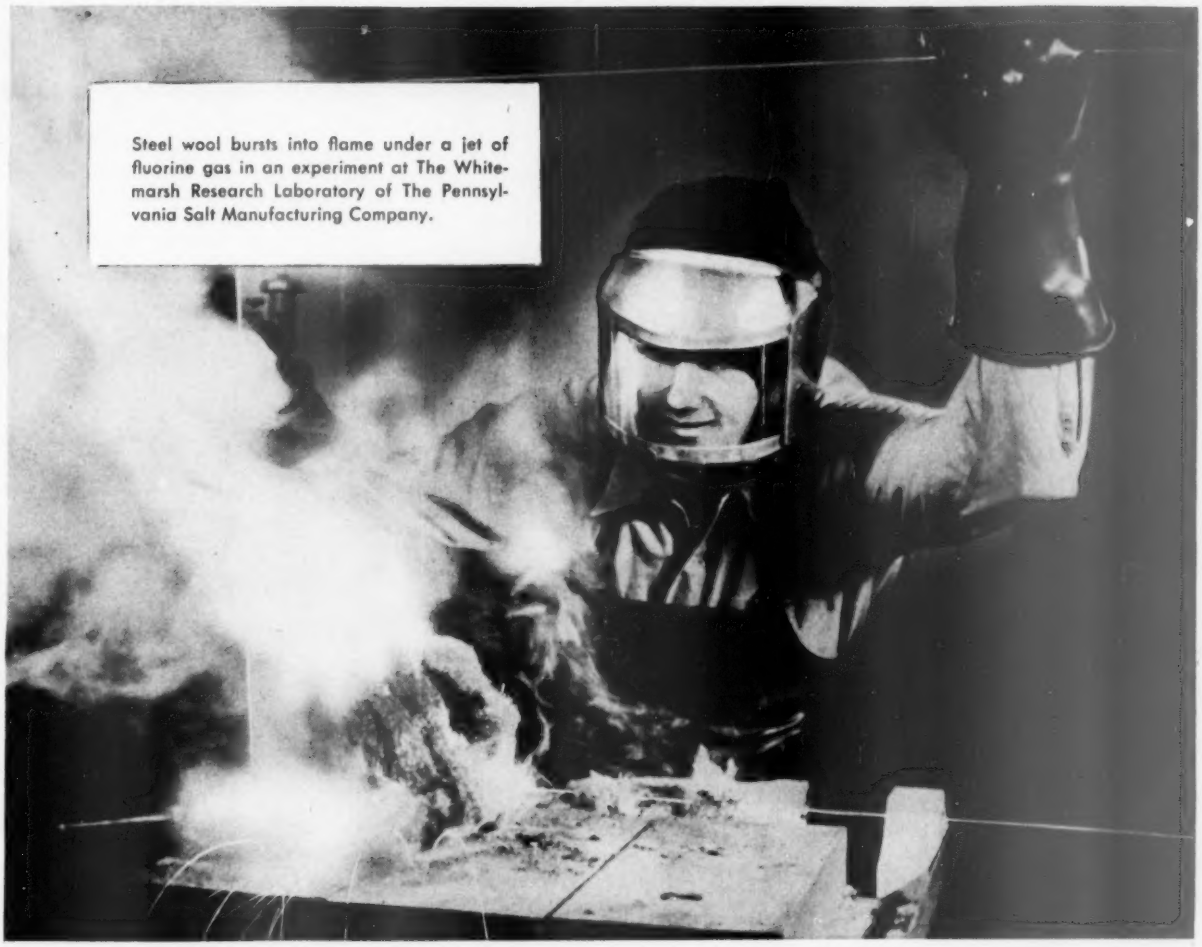
Assets of the nation's 14,617 banks jumped 5% last year, to a new all-time high of $215-billion, reports Federal Deposit Insurance Corp. About one-third of the resources was then invested in U.S. government issues, another third in loans. Cash holdings added up to almost $46-billion, capital and surplus accounts to over $15-billion. Consumer credit rose $2-billion—or 28%—in 1952, to almost $8.6-billion; loans for stock market transactions zoomed 24%, to over $3.1-billion.

•

Commercial Credit Corp., reports chairman A. E. Duncan, upped auto financing rates several months ago to put them in line with higher costs of borrowing money. Steps were also taken to curb extension of credit on used cars —to prevent too much of a jump in repossessions and to reduce credit losses during any possible business adjustment.

•

Phillips Petroleum Co. stockholders got first crack this week at $162.1-million of new convertible debentures, largest offering of its kind ever made by an industrial corporation. Standing by to pick up any new bonds not taken by shareholders was a 215-member underwriting syndicate made up, according to one of its members, of "just about every one with any kind of money in the investment banking business."



Steel wool bursts into flame under a jet of fluorine gas in an experiment at The Whitemarsh Research Laboratory of The Pennsylvania Salt Manufacturing Company.

When Metal Bursts into Flame

Imagine, if you can, an element so fierce it burns up steel. One that claws its way through firebrick . . . makes water burn like alcohol . . . destroys almost everything it touches.

That's fluorine for you!

And for over two hundred years chemists racked their brains to find some material that would hold fluorine. Hold it for even a few minutes' study.

Numerous materials – all considered dependably resistant to corrosion – were tried. Most went up in a flash.

Some few seemed to work, momentarily. But let temperature rise a trifle, or pressure build up . . . or a trace of moisture seep in . . . then dig out the wreckage and start over.

Finally Nickel and its alloys were tried. They work. They last for months where other materials failed in days or weeks. Today, you find Nickel and Inco Nickel Alloys in equipment that produces fluorine . . . in pumps and piping and valves where fluorine is compressed, stored, and processed. Nickel and Inco Nickel Alloys hold fluorine, even under heat and pressure. By the way, if you would like to know more about fluorine, ask us for a copy of "Fluorine Makes Its Debut."

When you have a metal problem...

If it's corrosion, it can't be any tougher than that caused by fluorine . . . and the solution may be found in Inco Nickel or one of the Inco Nickel Alloys. Inco corrosion engineers are ready to help you. They've prepared a Corrosion Data Work Sheet to make it easy for you to outline your problem to them. Write for it, without obligation, of course.

Or perhaps your metal problem concerns temperatures – high or low . . . stresses or fatigue resistance. Whatever it may be, Inco engineers will gladly help you find the answer. The International Nickel Company, Inc., 67 Wall Street, New York 5, N. Y.

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Low Carbon Nickel • Duranickel • Inconel®
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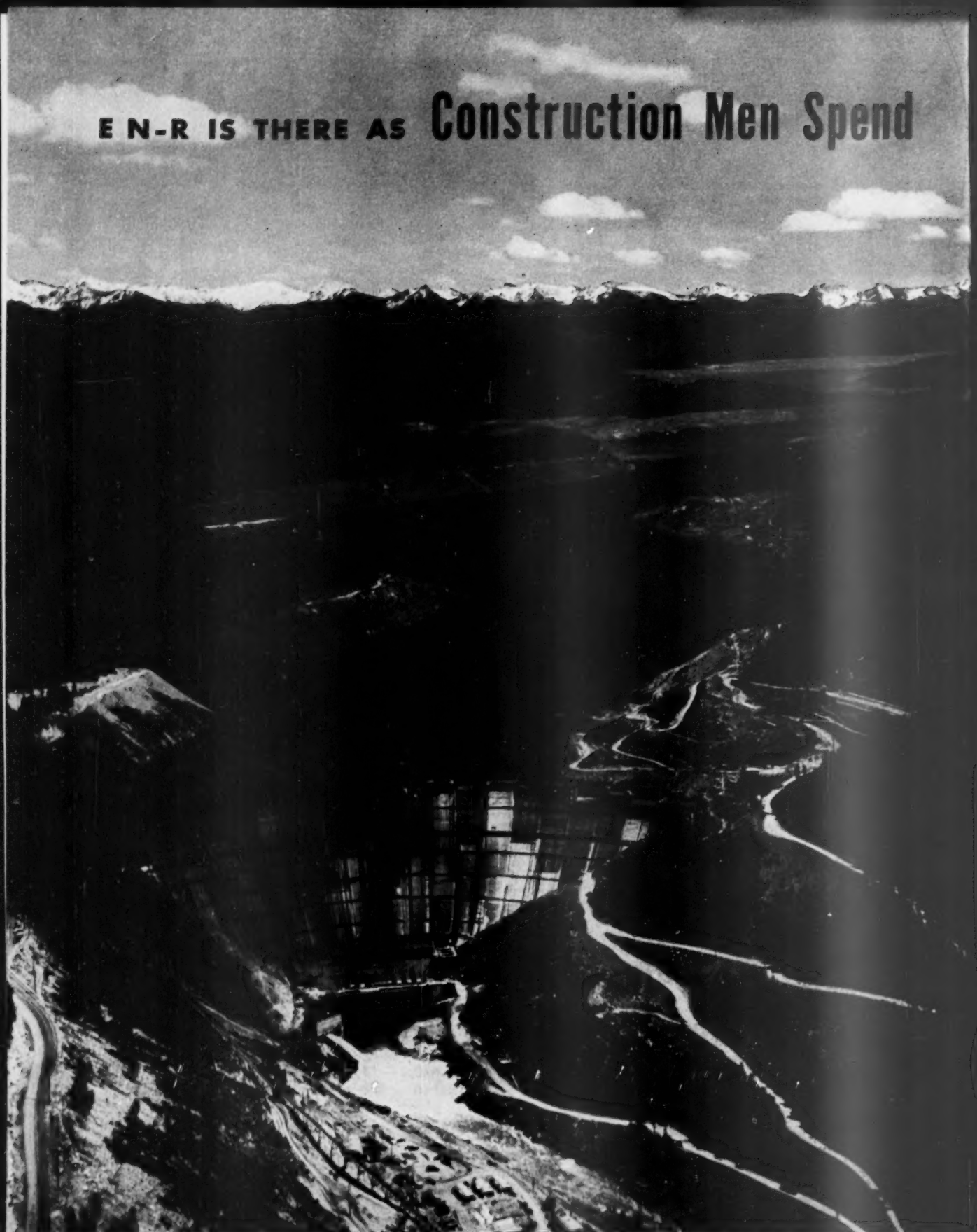
E N-R IS THERE AS Construction Men Spend



SKY, MOUNTAINS AND CONCRETE at $43,000,000 Hungry Horse Dam, world's fourth largest. The three prime contractors in this joint-venture receive 91 copies of News-Record every week. 280 subscriptions to E N-R go to the Bureau of Reclamation.

$80-Million Per Day

Construction men will spend more than $30-billion in 1953 on projects like these. Each project will be a new adventure—will never have been done before and will never be done again under the same circumstances.

New and unique problems will pop up—in labor relations, in financing, in logistics, costs, legalities, governmental policies, equipment maintenance, materials availability and so on. But all these problems will be licked by the same type of people, applying the same fundamental principles and using the same materials and equipment. Thus, each project, though unique, will really be just a re-shuffle—a new combination of many common elements.

One of these common elements wherever men are building is the weekly copy of Engineering News-Record. Because it reports *all* the news of *all* the forces and factors that are construction, it's the only publication that helps these heavy-spending men with *all* their problems, on *all* their projects. That's why, wherever and whenever buying decisions are made, E N-R is there.

Consistent advertising in Engineering News-Record can pre-sell your product before a project is announced and continue to sell it all through the construction process. Your Engineering News-Record salesman can give you additional proof. Call him now.

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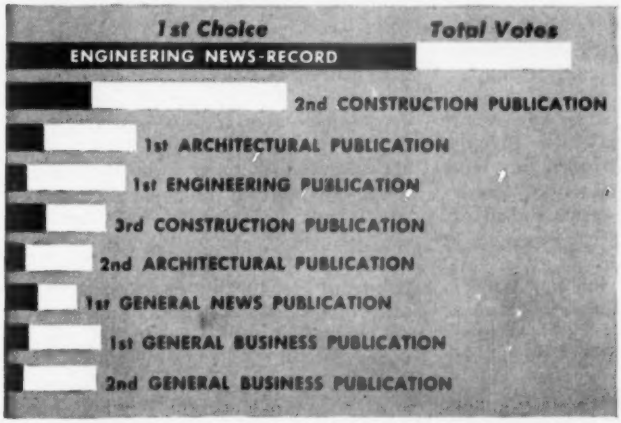

Surveys conducted by more than 30 other important construction firms show same pattern.

GLASS UNDER GLASS at the new Lever Building in New York. Under the glass exterior is cellular glass for insulation. E N-R was there every week during construction. Subscriptions go like this: owner—2; architect—22; consulting engineer—2; contractor—107; electrical contractor—7.

COSTLY CURLICUES. 118-mile New Jersey Turnpike cost almost $2-million per mile. NJTP Authority made a readership survey among the 37 firms who built the high-speed highway—result was News-Record, ten to one, for most useful publication. When contracts were awarded, firms who got the business were already receiving 636 copies of E N-R every week. By the time the road was completed, E N-R was there with 1,007 paid copies weekly.

MASS BUT MODERN HOUSING. Parklabrea in Los Angeles, one of three modern housing developments owned by a major insurance company. In addition to 11 E N-R subscriptions to the contractor, the insurance company gets three copies every week.

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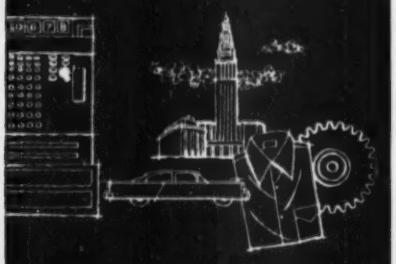

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THE MARKETS

Bulls Say It's a Tradition

The records show that there's almost always some kind of rally when summer rolls around. The bulls figure this year need be no exception.

Is a summer upturn for stocks in the cards for 1953? Will shares, as in 1951 and 1952, stage a warm-weather rally?

The law of averages heavily favors such an advance, according to the market bulls, and the records of Wall Street statisticians back them up.

They hint that the upturn in the Standard & Poor's 90 stock index, which got under way in April after a long decline had canceled out the Eisenhower election gains, could be the harbinger of a summer rise.

• **Precedents**—There is no known way of predetermining in which direction the stock market will move, any more than there is any sure way of foreseeing the unpredictable events abroad and at home that influence the course of business.

Still there was a summer rally in 1951. It began in the latter part of June and lifted the S&P 90 stock index 13.8% by mid-October (see chart).

There was one in 1952. It got under way in May and lifted the index 9% by mid-September.

This year the advance (from a 1953 low in April) has been about 3%.

The market tilted downward in the summer of 1950, but this obviously was due primarily to the unsettling influence of the start of the Korean war. Moreover, the downtilt lasted only three weeks.

The rises in the past three summers had still more years of precedent behind them. In the past 45 summers, according to a study by W. E. Hutton & Co., the Dow-Jones industrials average advanced 38 times from May-June lows; the railroads average, 41 times. The average has been 9.6% in the industrials and 13.3% in the rails.

• **Repeat?**—The bears could rightly point out that the Big Board's lethargy early this week was hardly a picture of the preliminaries of a traditional rally.

On the other hand, investors last week took in stride President Eisenhower's recommendation to cling for

now to present high tax rates. It may be that they don't believe the Administration can put through its proposal to maintain rates. It's quite possible they don't even fear extension of the excess-profits tax.

One reason for this, of course, could be the healthy rate of earnings in recent years, despite the tax. And it may be that investors see enough business ahead to warrant expectation of continued good earnings, even if President Eisenhower's 1953 tax program is adopted.

Preferreds Also Show the Effect of Money Rates

Preferred Stock Issue	*1952 High*	*1952 Close*	*Recent Level*	*Recent Price Level vs. 1952 High*	*1952 Close*
Air Reduction $4.50	$115.50	$114.50	$108.00	− 6.5%	− 5.7%
American Airlines $3.50	90.00	79.75	75.50	−16.1	− 5.3
American Bank Note $3	61.50	57.50	B53.50	−13.0	− 7.0
American Can $1.75	45.50	44.00	41.75	− 8.2	− 5.1
American Metal $4.50	105.00	104.37	B97.00	− 7.6	− 7.1
Amer. Radiator & Stand. San. $7	175.25	172.00	B158.00	− 9.8	− 8.1
American Smelting & Ref. $7	165.50	159.00	146.75	−11.3	− 7.7
American Zinc $5	109.00	93.00	B82.25	−24.5	−11.6
Atch., Topeka & Santa Fe $2.50	58.00	56.00	52.25	− 9.9	− 6.7
Atlantic Refining $3.75	100.75	97.50	90.75	− 9.9	− 6.9
Borg-Warner $3.50	95.50	93.50	88.50	− 7.3	− 5.3
Bristol-Myers $3.75	103.75	97.00	B92.25	−11.1	− 4.9
Brooklyn Union Gas $2	54.75	51.50	B47.25	−13.7	− 8.3
Burlington Mills $3.50	84.00	81.00	B72.00	−14.3	−11.1
J. I. Case $7	154.50	143.75	B128.25	−17.0	−10.8
Caterpillar Tractor $4.20	104.75	104.75	B97.00	− 7.4	− 7.4
Celanese Corp. $7	150.50	133.50	B125.50	−16.6	− 6.0
Chesapeake & Ohio $3.50	88.00	88.00	80.50	− 8.5	− 8.5
Cincinnati Gas & Electric $4	103.00	101.50	96.25	− 6.6	− 5.2
Continental Can $3.75	99.00	97.75	B86.00	−13.1	−12.0
Corn Products Refining $7	178.00	172.00	163.50	− 8.1	− 4.9
Crane Co. $3.75	97.00	95.50	B89.50	− 7.7	− 6.3
Crown Zellerbach $4.20	103.50	102.25	93.00	−10.1	− 9.0
Deere & Co. $1.40	35.25	33.87	30.50	−13.5	−10.0
Dow Chemical $4	105.50	103.37	97.75	− 7.3	− 5.4
E. I. du Pont de Nemours $3.50	99.00	96.00	91.50	− 7.6	− 4.7
Duquesne Light $1.78	51.00	47.50	43.50	−14.7	− 8.4
Food Machinery $3.75	98.75	96.00	90.50	− 8.4	− 5.7
General Foods $3.50	96.50	94.25	B88.50	− 8.3	− 6.1
General Mills $5	125.50	123.50	115.87	− 7.7	− 6.2
Hercules Powder $5	126.50	126.12	117.25	− 7.3	− 7.0
Hooker Electrochemical $4.25	102.50	102.00	92.50	− 9.8	− 9.3
Household Finance $3.75	96.00	90.62	83.00	−13.5	− 8.4
Ingersoll-Rand $6	164.50	161.75	B151.50	− 7.9	− 6.3
International Harvester $7	172.00	165.00	153.50	−10.8	− 7.0
Jewell Tea $3.75	100.00	99.00	B93.00	− 7.0	− 6.1
Koppers Co. $4	97.50	92.75	86.50	−11.3	− 6.7
May Department Stores $3.75	98.00	94.00	84.00	−14.3	−10.6
Merck & Co. $3.50	93.50	92.50	B80.50	−13.9	−13.0
National Biscuit $7	179.50	173.50	163.50	− 8.9	− 5.8
National Distillers $4.25	110.75	99.00	90.50	−18.3	− 8.6
National Lead $7	177.00	172.00	157.50	−11.0	− 8.4
Oliver Corp. $4.50	108.25	94.00	87.25	−19.4	− 7.2
Philadelphia Electric $3.80	99.75	98.50	88.00	−11.8	−10.7
Public Service El. & Gas $4.08	103.87	101.00	94.50	− 9.0	− 6.4
Remington Rand $4.50	98.25	98.25	89.00	− 9.4	− 9.4
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Scott Paper $3.40	94.00	92.75	86.00	− 8.5	− 7.3
Standard Oil (Ohio) $3.75	100.50	100.00	B93.00	− 7.5	− 7.0
Thompson Products $4	98.75	97.50	B90.25	− 8.6	− 7.4
Union Electric $3.70	98.00	98.00	83.00	−15.3	−15.3
Union Pacific $2	50.25	50.00	45.75	− 9.0	− 8.5
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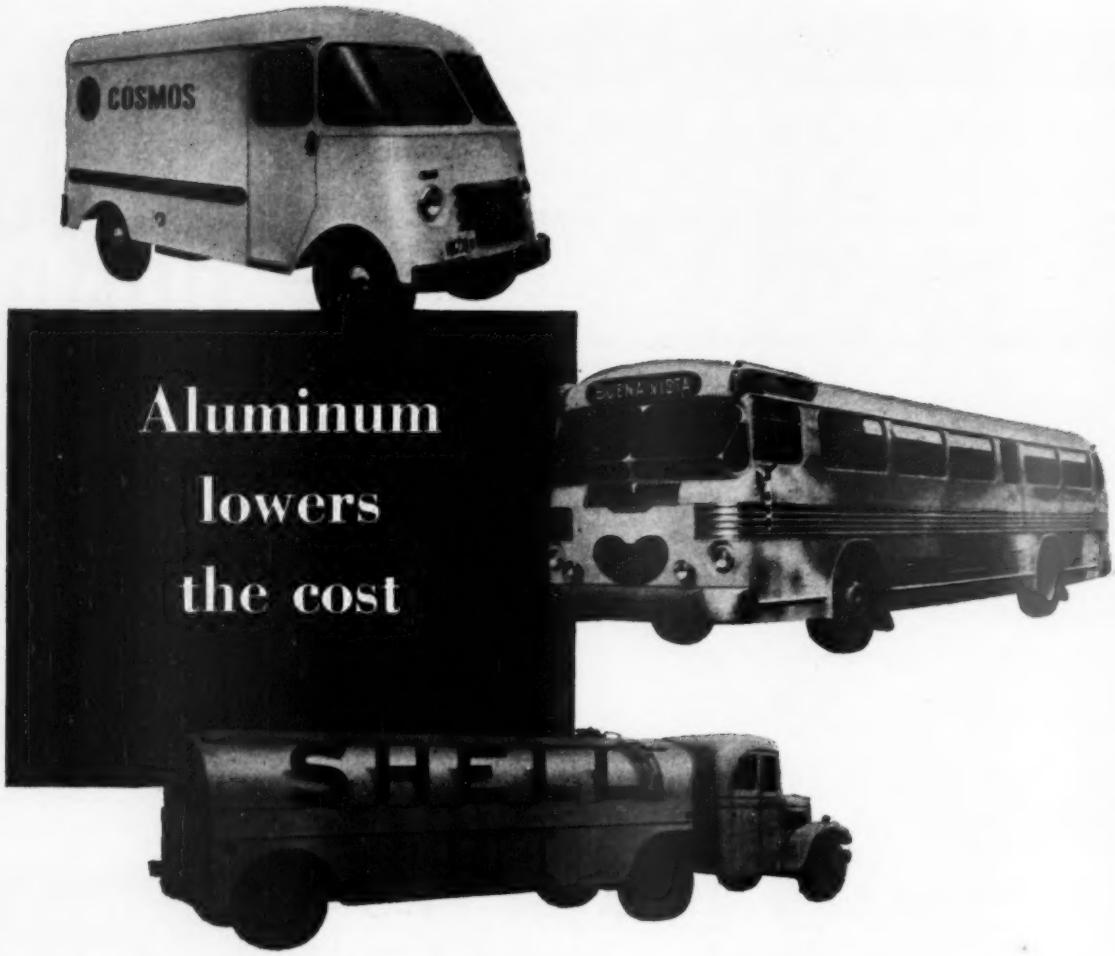

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INTERNATIONAL OUTLOOK

BUSINESS WEEK
MAY 30, 1953

World affairs are in a more fluid state today than at any time since the cold war started.

For months ahead you'll see East and West maneuvering for position, testing intentions. And within the Western camp itself there'll be some jockeying between Washington and London.

The meeting of the Western Big Three at Bermuda and even top-level talks with the Russians, if they are held, will merely be part of this process.

That's assuming that the Communists accept a truce in Korea now. If they don't, then **the lines will immediately harden again** as both sides dig in for a bigger fight in Asia.

•

The Bermuda meeting will put Western unity to a real test. There are differences between Washington and London as to what Moscow's game is.

Even if there's a truce in Korea, Washington won't be convinced that there's been anything more than a change in Russian tactics yet.

As U. S. officials see it, the new Soviet rulers aren't ready for any real concessions. True, they may want a less tense international atmosphere. But, as compared with Stalin, all they are doing is substituting smiles for frowns.

Churchill and most European leaders go a lot further than this. They think the new Russian leaders—at least the Malenkov group—want a breathing spell.

•

Given this difference, **it will be hard to get agreement at Bermuda on the West's conditions for talks with the Russians.**

Eisenhower will insist that there must be deeds, not just words. And his position will be strengthened by the way the Russians turned down the recent Western bid to reopen negotiations on an Austrian peace treaty.

Still, the Bermuda meeting may prove a step toward Big Four talks, especially if a Korean truce comes.

•

Other questions will be touched on at Bermuda, of course.

• In any Big Four talks, **what will the Western position be on big issues like Germany?** London doesn't agree with Washington that the European Defense Community is a must. But both governments agree that Germany must have a national army and be free to join the West if it wants to.

• If there's a truce in Korea, **what will U. S. policy be vis-a-vis Communist China?** The British probably won't press for recognition of the Reds, but they may ask Eisenhower for assurances that the U. S. won't back a Nationalist invasion of mainland China.

• **Will the U. S. continue to back Western Europe economically?** British and European leaders are afraid the U. S. Congress will not be so liberal as in prior years.

•

Both aid and trade are having rough sledding in Congress.

Chances are that Eisenhower's request for $5.8-billion for foreign aid will be cut by about $1.5-billion.

The Administration cut Truman's figure by $2-billion on the assumption that Congress would be satisfied with that. But the foreign aid bill will be the last appropriations measure to be acted on. So the economizers will try to make up for cuts they've failed to make elsewhere.

There's another angle that will come up in the foreign aid debate—**Senator McCarthy's charge that the British are helping the Chinese Reds by trading with them** (page 128). This charge will be used to shoot holes in foreign aid, may lead to calls for cutting off all aid to Britain.

•

On the trade side, Eisenhower's position isn't too strong, either.

The Reciprocal Trade Agreements Act is bogged down in the House Ways & Means Committee. Instead of renewing the act for a year, as Eisenhower requested, **Congress may let the law lapse in June.**

Although there is no technical need for the law right now, such a move by Congress would have serious repercussions abroad. And the danger of a real tariff war would become serious if the law were not enacted by Jan. 1, 1954.

For most of our postwar tariff agreements would cease to be binding on that date if the President had no power to renew them. **That would permit foreign countries to raise duties** on U. S. goods without violating international agreements.

•

Foreign businessmen trying to secure U. S. government contracts got a boost this week. The Army awarded an $857,600 contract to Britain's Ferranti, Ltd., to supply transformers for the McNary Dam on the Columbia River.

Businessmen abroad had been down in the dumps after a low British bid on equipment for the Chief Joseph Dam was rejected recently (BW-Apr.25'53,p34). At the time, they feared they might lose out under the new Administration's interpretation of Buy American laws.

Now the McNary decision raises hopes that Washington will award contracts on an equal competitive cost basis between European and domestic bidders.

•

Canadians have nailed down firm U. S. supply contracts for over 1-million tons of aluminum between now and 1959.

For years, Aluminium, Limited, parent of Aluminum Co. of Canada, has sought long-term U. S. contracts—either government or private (BW-Jul. 26'52,p82).

Now Aluminum Co. of America says it will buy 600,000 tons, and Kaiser Aluminum is down for 186,000 tons. Also there are firm contracts with independent U. S. fabricators for another 320,000 tons.

It may mean a speed-up at Alcan's huge hydro-smelter project at Kitimat, B. C. The smelter begins perking next year with 90,000 tons capacity; now Alcan is considering doubling that output.

•

European businessmen are taking a look at Quebec iron ore. If all goes well, they may buy important tonnages from Fenimore Iron Mines' concession on Ungava Bay.

Fenimore claims it has some 560-million tons, close to tidewater. It's spotted about 150 mi. north of the big Hollinger-Hanna iron development on the Labrador-Quebec border.

The company has concluded an agency agreement with VULCAAN, Dutch iron and coal merchants. It could lead to some foreign financing; the Dutch say they hope to interest German steel men in the project.

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BUSINESS ABROAD

U. S. Businessmen Change Their Tune

● Americans at this year's International Chamber of Commerce session eased their push for freer trade with Western Europe.

● It's not a change of heart but a reflection of GOP trade policies.

● So most Europeans went home feeling there's a good chance that East-West trade will spread.

From 1945 to 1952 various groups of U.S. businessmen pushed aggressively, as the U.S. government did, for more liberal trade policies in the Western world. This was especially true of a group of American businessmen who have played a leading role in the postwar activities of the International Chamber of Commerce.

But this year things are different. When delegations of businessmen from 30 countries met at the annual ICC Congress in Vienna last week, the U.S. Council was strictly on the defensive. The American delegates at Vienna didn't press the Europeans, as they had at earlier meetings, for convertibility of currencies and lower trade barriers.

• **A Reflection**—The defensive position of the U.S. Council doesn't mean that there has been any change in its support for liberal trade policies both in the U.S. and abroad. But it does reflect the political situation in Washington, where a Republican Congress is more inclined to fall back on the GOP's traditional protectionism than to follow the cautious approach toward freer trade that President Eisenhower seems to favor.

In fact the present trend of U.S. foreign economic policy, plus some fear of a U.S. recession, set the tone of the Vienna meeting. And it led to talk—mostly behind the scenes—of two developments that could be harmful to U.S. interests:

• More reliance on regional trading arrangements that would tie Western Europe and the sterling area closer together. Such arrangements would mean more or less permanent discrimination against dollar goods.

• An increase in East-West trade. The Vienna meeting closed with a general feeling that there's far more chance of an increase in East-West trade than of any expansion of trade within the non-Communist world.

• **Unexpected Turn**—This wasn't the way the Vienna conference was supposed to pan out. When it was planned late last year the theme was to be: how to keep up the momentum toward a freer and more productive system of trade and payments in the face of a mounting burden of armaments.

But three things happened in the interim:

• At the U.S.-British financial talks in March, Washington poured cold water on the British plan for making sterling convertible. This upset many ideas on how to solve the inconvertibility problem.

• Since March there has been growing uncertainty abroad about the direction of both U.S. trade policy and U.S. foreign-aid policy.

• The peace offensive launched by Moscow after Stalin's death has made Europeans wonder if the big economic problem of the future won't be markets rather than financing rearmament.

• **Unrealistic**—In combination, these three developments shifted the perspective at Vienna from short-term plans to longer-term plans. A resolution before the Congress spoke of 1953 as the "crucial year." At the closing session Camille Gutt, the new ICC president, said: "The next two years are crucial for safety or disaster." Thus, the formal proceedings were somewhat unreal, and the informal exchanges that went on over a coffee cup or a cocktail glass became the really significant thing at Vienna. And in these conversations almost every non-American showed intense interest and considerable anxiety about (1) the outcome of the current debate in Washington over U.S. trade policies; and (2) the possibility of a recession in the U.S. within the next 12 months.

• **Soothing**—On both counts, the U.S. delegation did its best to quiet European fears.

In the case of U.S. trade policy, the U.S. delegates, led by Warren Pierson, took the line that liberal trade policies will gradually win out in Washington. But the European delegates weren't convinced. They read the signs from Washington differently.

• **A Stronger Suit**—American delegates were more convincing on the business outlook in the U.S. They insisted that no recession is in sight this year and expressed confidence that normal growth would continue next year. This assurance made a real impression on Europeans but didn't completely remove all uneasiness about the American business outlook. As the Europeans see it, even a minor inventory adjustment in the U.S. could spread serious international deflation, widen the dollar gap, strain European gold reserves, and bring on new trade restrictions.

In fact, some Europeans think that there may be another dollar crisis next year even if U.S. business activity remains at its present level. They think this could happen if any increase in U.S. trade barriers should be coupled with the drop that's already scheduled in U.S. foreign aid. That's why there was reluctant agreement with Dennis Robertson, British economist, who advised Congress against serious moves toward convertibility until there is a "quasi-revolution" in U.S. trade policy.

• **Changed Places**—On the convertibility issue itself, there was a strange reversal of positions this year as between Americans and Europeans. Up to now it has been the American delegates who have pushed for convertibility. This year it was the Europeans who wanted it—assuming evidence of more liberal American import policies. And the Americans urged a go-slow attitude.

British delegates at Vienna took the position that convertibility could have been largely achieved this year if U.S. policies on trade and aid had continued as they were under the Democrats. As the British put it, all that was needed beyond this was a stabilization fund handled either by the International Monetary Fund or the Bank for International Settlements.

• **Too Late**—Now both British and European businessmen feel that the psychological moment has been lost. What's more, they argue, unless U.S. policy soon moves again in a liberal direction, there's bound to be more support for setting up a third trading bloc between the U.S. and Russia.

There was some talk at the open sessions in Vienna, and much more behind the scenes, about closer ties between Western European and the sterling area. The German delegates,

especially, stressed this approach, saying that they need freer access to sterling area markets as well as the markets of Western Europe. The Italians also favored this kind of regional approach.

• **Wait and See**—For the moment, though, the British apparently figure that their best bet is merely to stick with the European Payments Union and widen free exchange dealings among nondollar countries. Then, in maybe a year, another bid would be made to Washington to close the gap between the dollar and nondollar worlds on the basis of convertibility and lower trade barriers.

American delegates at Vienna supported this position. But they were not blind to certain dangers involved in it. Some of the European backers of this approach admit privately that they are hedging against the possibility that the U. S. will become more rather than less protectionist.

• **On Everybody's Mind**—Actually a much more immediate threat to U. S.-European relations than this reared its head at Vienna—the threat of a split on the East-West trade issue.

This question wasn't even on the agenda of the Congress, and it was never hashed out. But the very locale of the meeting—Vienna is right on the Iron Curtain—meant that it was bound to be on everybody's mind. The current Soviet trade offensive made that doubly sure, as did the Russian observers who dropped in on the Congress.

• **Two Sides**—The real difference between the American and European positions can be put fairly simply. Last year the U. S. Council said that Western Europe couldn't cut all trade with Eastern Europe unless alternative sources for Eastern supplies could be found elsewhere. To this the Europeans reply: Alternative supplies cost dollars, which are much harder to earn than Eastern currencies. Moreover, they argue that if the present opportunity for trade isn't taken, then Eastern Europe will be permanently organized to supply the Russian and Chinese markets.

Regardless of the respective merits of the two positions, there's no doubt that the Vienna Congress ended with the Europeans, in general, feeling that trade with the dollar world is more likely to go down than up in the next year or so, while there's a good chance that East-West trade can expand substantially.

Other questions were discussed at Vienna, including private investment. A lot of time was spent on practical matters like improving international arbitrage and getting better definitions of international contract terms.

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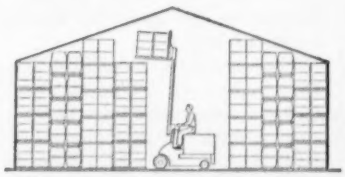

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Crackdown on China Trade?

Sen. McCarthy would like to see free world trade with Red China barred completely. But many U.S. allies—especially Britain—balk at the idea.

The problem of free world trade with Red China has gnawed quietly at U.S. ties with its allies, especially Britain, ever since Chinese troops erupted into Korea in December, 1950. Last week, Sen. Joseph R. McCarthy helped make the gnawing process more audible. He charged that British ships had transported Communist troops along the China coast; that Western exports to Communist China had skyrocketed in the past year; that 162 free-world ships—100 of them British—were cleaning up on China trade.

The issue is a political and diplomatic hot potato for the Administration. It could get hotter. There's little chance that the White House will be able to duck taking a stand on China trade; there's less chance that McCarthy will let the subject cool off.

• **Points of View**—There's an honest question of principle involved. Many Americans insist that any trade at all strengthens the enemy's economy. The British contend that, on balance, trade in carefully defined nonstrategic items helps the West more than the East. Moreover, London fears that a total embargo on China trade would jeopardize Hong Kong. Britons feel that would mean a loss in the Far East comparable to the loss of Berlin in Europe.

What's more, our allies can point out that the U.S. itself helped the Chinese economy more last year than Britain did. The U.S. imported under special Dept. of Defense license $27-million worth of Chinese pig bristles, eider down, and other items. Dollars, say the British, are as useful as strategic materials to Peking.

• **Fogbound**—As seen from Washington, trade with China is shrouded in Oriental mystery. Take the confusion that surrounded the charge that two British ships had carried Red troops along the mainland coast.

The U.S. Navy apparently photographed a ship at sea off the Chinese coast in the early summer of 1951; the print showed some men aboard in what appeared to be Chinese uniforms. The vessel was flying the Panamanian flag, and was partly owned by the Panamanian subsidiary of a Hong Kong British shipping firm. There is some evidence that the Chinese were running the ship at the time.

Washington requested Panama to withdraw the ship's registry—which was done. London pointed out that as a Panamanian flag vessel, it was not subject to British control. That's where the matter stands now. Because of security regulations, outsiders can't check the complete accuracy of the story.

• **Charge and Defense**—You get on to firmer ground with the McCarthy committee's charges that over 100 British-flag ships were engaged in China trade during the first quarter of this year. The British embassy has accused the committee of confusing the number of arrivals of British ships in Chinese ports with the number of ships—and failing to point out that many of them arrived empty.

There were, according to the British, 97 British-flag arrivals in mainland ports. Of these, 60 involved ships from Hong Kong, many of them small coasters that do little but pick up mainland food for the crown colony. One of the ships made 16 voyages—in other words, 16 arrivals in Chinese ports.

• **Less Trade**—Testimony at the committee hearings gave a clouded picture of the facts of free world trade with China generally. True, there was a sharp increase in exports to Red China in the first two months of 1953, compared with the same period last year. But the comparison is misleading. During the last quarter of 1951 and the first of 1952, Peking cut foreign buying to a trickle while Mao Tse-tung shifted from private to state foreign trading. Chinese imports were abnormally low; as a result, the increase thereafter shows up abnormally high.

Fact is that free world trade with China has declined roughly 60% since 1947—from $672-million to $260-million. The drop was especially sharp following adoption of the United Nations resolution calling for an embargo on strategic shipments to the Chinese. As for Britain, its China trade slumped more than the rest—from $51.6-million in 1947 to $12.8-million last year. Actually, that's small potatoes for Britain: only .17% of total British exports, .09% of total imports.

• **What Was Traded**—More significant is the shift in composition of imports. A look at British trade statistics for 1950 and 1952 shows that strategic items fell way off, to be replaced by others, mainly soft goods. Nonferrous metals and manufactures (mostly copper) slid from $3.7-million to $3,000. Machinery dropped from $2-million to $1.5-million, and changed in composition to the point where most of the 1952 shipments were textile equipment.

Vehicle exports went from $422,000 to $34,000. Some of the space was taken up by woolens, cotton yarns, and chemicals—especially fertilizers.

• **Differences**—All the statistics in the world, though, can't explain away the basic differences between the U. S. approach to China trade and that of most other Western nations. The U. S. embargoed all trade following China's intervention in Korea. Others were content to embargo only strategic materials. And while there are still differences in opinion as to what is strategic, these differences have been progressively ironed out.

The British have taken extra steps, under U. S. pressure, to crack down on China trade loopholes. A licensing system has been set up to prevent British-flag ships from carrying strategic goods to China from other Communist ports. London has also denied bunkering facilities to any ship violating the U. N. embargo rules.

• **London's Case**—Still, the British would never go along with a total-embargo philosophy. London makes its case this way:

• A total embargo might lose Hong Kong—still a valuable listening post, possibly of strategic importance in event of war.

• Any nation that depends on foreign trade for survival must try to keep foreign markets open as long as possible. Though Britain's China trade is almost negligible in terms of total exports, the Chinese toehold might be expanded some day if tension eases. And the view that trade might conceivably be a lever some day to pry Peking away from Moscow still carries weight.

• Moral distinctions between trade with China and trade with Russia and other satellites seem strictly academic to Britons. Moscow clearly has been hip-deep in the Korean conspiracy. Yet all countries, including the U. S., continue limited trade with the Soviet.

Some Americans—perhaps Sen. McCarthy—would go along with this reasoning and favor a complete embargo on trade with the Soviet bloc. This might do real damage to many a Western country that depends on key Communist products—say Russian wheat and timber, Polish coal, Chinese rice.

• **Caution**—The U. S. State Dept.'s approach to the China trade issue is pragmatic. It argues that the only way Washington can limit the benefits of such trade to the Chinese war machine is through negotiation and cooperation with the rest of the Western world. Cooperation among the allies, in terms of strategic materials shipments, has been more effective than most people realize. But it would be sure to break down if the U. S. tried to dictate trading policies to its allies.

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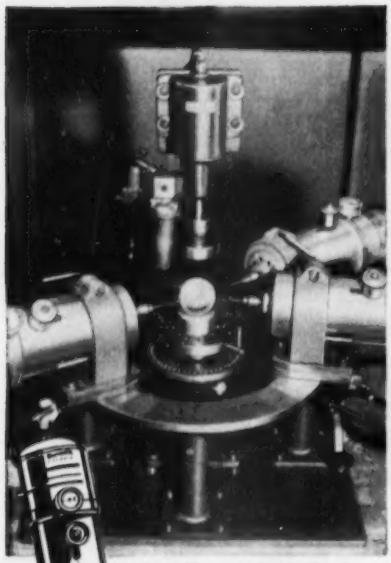

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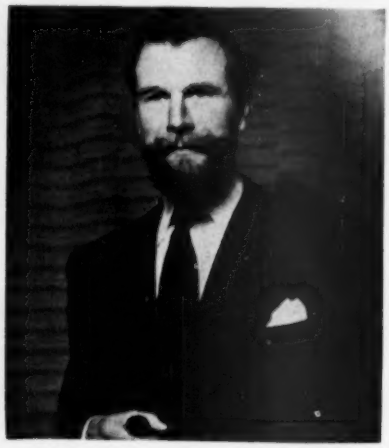
be more trade—both strategic and non-strategic—with China, not less. Officials worry that this is the direction in which the McCarthy committee, with its recent moves, is pushing U.S. policy.



British Beaver Launches

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Mister Commander Edward Whitehead, Schweppervescent Extraordinary from London, England, where the House of Schweppes has been a great institution since 1783.

The Commander has come to these United States to make sure that every drop of Schweppes Quinine Water bottled over here has the original bittersweet flavor essential for an unBeatin Gin-and-Tonic.

He imports the original Schweppes elixir and the secret of Schweppes unique carbonation is securely bolted to his brief case. Schweppervescence," says the Commander, "lasts the whole drink through."

Schweppes Quinine Water makes your favorite drink a truly patrician potion—and Schweppes is now available at popular prices throughout Greater New York.

Schweppes-U.S. Deal

For some time now, the one-eyed smoothie in the Hathaway shirt has been far and away the most distinguished-looking character in U.S. advertising pages. Now he has a rival. The "Man from Schweppes," complete with beard, briefcase, and tightly rolled umbrella, has arrived from Britain to push sales of Schweppes Quinine Water, now being bottled for the first time in the U.S. by Pepsi-Cola Co. Last week, Pepsi launched a national ad campaign built around "the Man" in newspapers, magazines, and bottlers' trade papers (bottom picture).

Actually, the Man from Schweppes is no photographers' model or copywriters' brain child. He exists, beaver, briefcase, and all, in the person of Commander Edward Whitehead (top picture), general manager of Schweppes' overseas bottling operations. Last fall, the big British producer of soda water, soft drinks, and mixers initialed an international franchise swap with Pepsi-Cola: Pepsi bottles Schweppes products in the U.S., while Schweppes takes over Pepsi's London plant (BW—Dec. 20'52,p112).

Now Whitehead is in New York, in person and in the ads, to help get the Pepsi-Schweppes operation rolling.

BUSINESS ABROAD BRIEFS

Greece got a $14.7-million offshore procurement contract this week. Hellenic Powder and Cartridge Co. will supply NATO with $8.4-million worth of 155 mm. shells, $6.3-million worth of bazooka-type rocket shells.

•

India's first drug plant was opened at Parnera this week. The $500,000 factory is owned by Lederle Laboratories (India), Ltd., a subsidiary of the New York firm; it can produce 1-million aureomycin capsules a day, enough to meet all Indian needs for the drug.

•

Oil news: Mexico made its biggest oil shipment to the U.S. in many a day—885,000 bbl., valued at over $9-million. . . . Southern California Petroleum Corp. will conduct oil explorations in Egypt for a Swiss firm, International Egyptian Oil Co., Inc. . . . Cuba plans a new law to woo foreign oilmen to the island.

•

DuMont's out for a share of Japan's small but growing TV market. It has named Yaou Radio Mfg. Co., Tokyo, one of Japan's biggest marketing outfits, as sole distributor of its receivers and tubes.

•

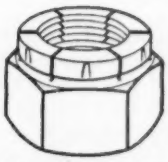
Juan Peron is now a racetrack operator. Last week the Argentine government dissolved the 71-year-old Jockey Club, took from it control of the nation's two top tracks. The Jockey Club's 5,000 members included most of the anti-Peron aristocracy; its headquarters was burned out just a month ago by a mob.

•

A Scandinavian Airlines DC-6B made the first commercial flight from Europe to the Orient by the polar route. The plane with 41 passengers arrived in Tokyo this week from Oslo after stops in Greenland, Alaska and the Aleutians. Air time was 37 hours for the 6,683-mi. flight, about 3,000 mi. shorter than the usual one via India.

Photo Courtesy U.S. Coast Guard

You'd use a FLEXLOC if your life depended on it



"Will she hold together?"

If that thought has ever crossed your mind while you're driving a fast car on a smooth, fast road, you can understand why aircraft manufacturers rely on FLEXLOC Self-Locking Nuts for planes which must undergo many times the vibration, tension and heat your car experiences on a highway.

A FLEXLOC is, first of all, a superb locknut. Once the locking threads of a FLEXLOC are fully engaged, that nut will stay where you put it. A FLEXLOC is also a *stop* nut; it doesn't have to be seated to lock perfectly. Yet it can be removed and used over and over again without galling threads or losing locking ability.

FLEXLOCS are one piece. They require no lock washers, no cotter pins, no auxiliary locking devices to keep them on a bolt. Thus they are easier and cheaper for a manufacturer to install.

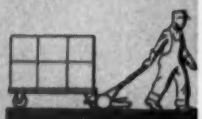
Another important advantage of a FLEXLOC is that it is *all* metal. Leaking oil or water won't affect its locking ability. And even standard FLEXLOCS will withstand temperatures as high as 550°F.

FLEXLOC locknuts have been approved and accepted by the Army-Navy Aeronautical Board, the U.S. Signal Corps and Bureau of Ships, CAA, the Ordnance Department, and the U.S. Navy Bureau of Ordnance. They are made only by SPS, which has been making precision fasteners for the last four decades. For further information, write SPS, Jenkintown 57, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

SPS FLEXLOC LOCKNUT DIVISION
JENKINTOWN, PENNSYLVANIA

The Colson Lift-Jack System Saves You Time Money and Space



● Through production, in and out of storage, on and off freight cars and trucks, the COLSON Lift-Jack, with wood or steel semi-live skids, easily doubles the efficiency of conventional hand trucks. It pays for itself quickly—often in a few months.

Other cost-cutting materials-handling equipment by COLSON includes Drum and Barrel Trucks, Platform Trucks and precision-built Wheels and Casters. Write us or consult the "yellow pages" (under "Casters" or "Trucks—Industrial") for the COLSON office near you.

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ELYRIA, OHIO

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COMPANY .....
STREET .....
CITY ..... ZONE ..... STATE .....

THE COLSON CORPORATION
ELYRIA, OHIO

Gov. Dewey offers a "final chance" to . . .

The Docks: Blowup May

It became practically certain this week that the perennial blowup on the New York docks was going to be bigger this year than ever before. The gamy mixture of corrupt unionism, questionable business practices, multimillion-dollar racketeering, and jungle mores—constantly vulnerable to spontaneous explosion—got two new detonators.

First the New York State Crime Commission sent its long-awaited recommendations to Gov. Dewey. They call for legislation to regulate business on the docks—for regulation more thorough, drastic, and pervasive than any ever before seriously proposed for any U. S. industry.

• **Hearings**—Naturally enough, the recommendations jarred Dewey; though classified as a liberal Republican, he remains enough of a conservative to react negatively to suggestions for government domination of business. Aware that the situation is so bad that something really basic has to be done, the governor announced two days of public hearings on the SCC report—over which he himself would preside. It seemed to be pretty clearly a "last chance" offer to industry and labor to come forward with a program that would actually get the clean-up job done or take the SCC-recommended statutory control.

These announcements were followed, the very next day, by unprecedented action on the part of AFL's reigning executive council. Under its president George Meany, the federation turned down cold an offer from its waterfront affiliate, the International Longshoremen's Assn., to put its house in order. Early in February, the federation made four demands on the ILA that were widely interpreted as an ultimatum. The ILA was told to get rid of the shape-up method of hiring dock labor; to get men with criminal records out of the union office; to remove all officials who had accepted bribes from employers or appointed former convicts to union jobs; and to establish democratic practices within the union. The AFL did nothing to change the impression that unless the ILA met these conditions it would be booted out of the federation at AFL's annual convention next fall.

• **Ex-Convicts**—After an interlude of more than three months, spent mostly in looking for a formula to take it off the spot, the ILA notified the AFL it was prepared to dump the shape-up and provide for internal democracy. But it balked at eliminating former convicts and bribe-takers. It told the federation it would consider such a ban if the AFL imposed a similar requirement on all of its affiliates.

• **Legal Advice**—To the AFL, that was a piece of towering impertinence. The only thing that saved the ILA and its president Joseph Ryan from prompt expulsion was legal advice from AFL attorneys to go easy. Thus, the ILA proposal was rejected and Ryan was asked to appear for a hearing—actually a trial—on the first day of the next executive council meeting, Aug. 10, in Chicago.

Louis Waldman, Ryan's attorney, had the council a bit worried. They were furious about the crack that there isn't any rule against criminals in AFL unions, so why adopt one now. That couldn't have been calculated to endear Ryan to the AFL, so it could

. . . ILA's Ryan; he's on spot, and . . .

. . . AFL's Meany is holding him on it.

Bring Reform at Last

only have one meaning: laying the basis for a lawsuit.

It seemed apparent that the AFL's position would be better if it at least went through the motions of a trial before expelling an affiliate.

If the AFL expelled the longshoremen, a suit would raise such embarrassing questions as these:

By what right do you throw us out?

What AFL laws have we violated?

How do you define convict?

What about other ex-convicts in the AFL?

What about those who have been arrested and escaped punishment?

Have not many of labor's heroes had records of arrests?

Perhaps a suit would be lost by the longshoremen, but it would have a nuisance value, and the AFL would like to avoid the suit altogether, or certainly the trial of a suit.

The common belief is that the AFL can expel an affiliate with impunity and merely make the defense that "we are a voluntary association and can associate, or refuse to associate, with whom we please."

• **Association**—There is, however, another theory of law that Waldman might exploit. This is the theory that one's long and continued association gives one a property interest. For instance, if the AFL were to be dissolved, wouldn't the ILA be entitled to a share of the assets?

Besides, if the AFL is to have a new policy of refusing to associate with criminals, it cannot be adopted and enforced ex post facto. That is, your behavior yesterday is not punishable under a law passed today. These are some of the points a lawsuit probably would raise.

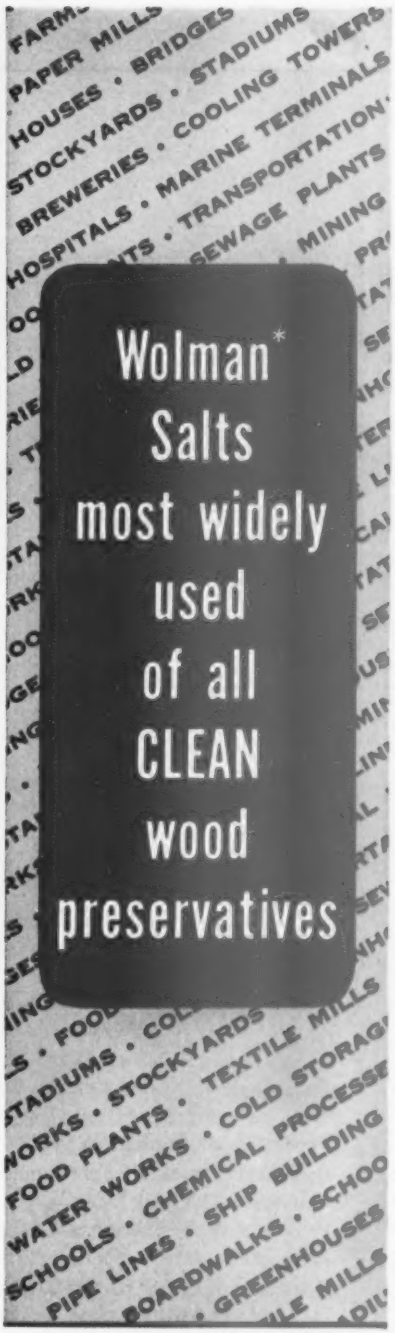
There's not much doubt that Meany intends to run a more reputable, vigorous, cohesive, efficient federation. He's quite proud of his "first," notably the demand on the longshoremen. When, at a press conference, he was asked whether it wasn't standard operating procedure to send a case like this to the convention and then carry it over to the convention of the following year, Meany bridled just a bit and questioned the implication of the phrase, "standard operating procedure."

"You," he said, "can examine the history of the AFL and you won't find anything in it like the Feb. 3 letter."

• **Raiding**—The council also set up a three-man committee to look into intra-union raiding, and Meany remarked that he didn't know of any other committee like it set up by the AFL.

If he doesn't trip along the way, Meany in a few years may acquire the power in AFL that once belonged to Samuel Gompers. He is giving the federation strong leadership. Apparently he does not feel that he is beholden to any strong man on the council. It might have been otherwise if the teamsters' Daniel Tobin had held his own union and was a younger man, but Tobin is fading as a kingmaker.

The man Meany may trip on is Dave Beck, of the teamsters, who undoubtedly will succeed Tobin on the council some day, and even now is influential. Beck has the biggest union in the AFL and intends it to be much bigger. He has warned all other affiliates they had better observe jurisdictional lines closely, or he will retaliate swiftly.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HOW would you like to carry unwieldy 50-lb. bundles of wallpaper up two flights of steps, hour after hour, day after day? That's what workers at the Plymouth Wall Paper Company, Baltimore, Md., had to do—before installation of Farquhar Conveyors. This back-breaking labor is now a thing of the past, and Plymouth's owner reports: "The Conveyors do the job ten times faster than before! I'd be willing to pay twice their cost, they're so valuable!"

Whether you move coal, gravel, sand, aggregates, cartons, boxes, bundles, bales or any kind of bulk or packaged materials—horizontally or from floor to floor—Farquhar can cut *your* handling costs to rock bottom! One or more of the complete line of Farquhar portable, semi-permanent and permanent power-belt or gravity conveyors will solve your handling problem. Our engineers will be glad to consult with you . . . at no obligation, of course!

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FREE! "Owners Report"—a booklet of case histories of money-saving conveyor installations.

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Please send me my free copy of "Owners Report."

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Nothing Cooking

Taft-Hartley amendment seems to be definitely shelved for the time. Nobody wants to do anything.

Since way back in February the suspicion has been growing that Congress would not revise Taft-Hartley this year (BW—Feb.28'53,p37). This week the suspicion came close to being a fact. Anybody who bets on labor law amendments this session, or even from this Congress, will be smart to get long odds.

New developments made that obvious:

• Labor leaders reacted violently to the "staff committee print" of proposed Taft-Hartley amendments prepared for Republican members of the Senate Labor Committee.

• Senate committee chairman H. Alexander Smith of New Jersey could not round up even a quorum of seven members for the first executive session to take up labor law amendments. Only five showed up, and three of them were Democrats. The first meeting will not be held until June 3, more than a month after lengthy hearings ended.

• House Labor Committee Chairman Samuel K. McConnell, Jr., indicated his committee would put off drafting a bill until fall if Congress goes through with plans to recess in July.

• Republican Congressional leaders, discussing plans with the White House, left Taft-Hartley revision off their "must" list of legislation they hoped to get through Congress before recess time.

• The U.S. Chamber of Commerce disclosed 27 recommendations that Secretary of Labor Martin P. Durkin has sent the White House, further lessening the chances that the Administration will make any strong move to get T-H amendments through Congress. The Chamber, in an "extra" edition of its Washington report to members, said the proposals "will come as a shock to management."

• AFL's executive council concluded a four-day quarterly meeting in Washington, during which it examined the Taft-Hartley situation but did not try to do anything about it. Some observers had expected the AFL leaders to goad the Republicans to carry out their promise to improve the controversial labor statute.

Taft-Hartley seems to be on dead center largely because nobody really wants to push it off.

• **Dilemma**—Eisenhower is on a spot. Although he promised to take union-busting out of the law, he has a split in his Cabinet between Durkin, former

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OLD WAY: With heavy preservative, rifles had to be cleaned before firing.
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Army Ordnance Photo

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. . . but you won't get all the vacation you plan!

. . . because many of those precious vacation hours will be swallowed up by The Great American Traffic Jam, a wastrel who is your unwanted guest on every auto trip.

The delays and dangers this wastrel causes are the result of our 1920 style roads trying to carry today's 52 million vehicles. It simply can't be done safely.

Here's just one startling fact—on the average, on 1 mile in every 4 of our main highway network *it is not safe to overtake and pass another car at cruising speed.*

America's traffic muddle is wasting millions of dollars a year in people's time. You'll feel this loss especially when it's chopped off your vacation time this summer.

Today, adequate roads are a top-of-the-list necessity. To solve the nation's traffic muddle, all highway users and industries should join with public officials to achieve these results: (1) highway planning which fits the roads and the streets to the traffic; (2) making sure all motor vehicle tax money is spent on highways.

If you've got it—a truck brought it!

American Trucking Industry American Trucking Associations Washington 6, D. C.

AFL leader and repeal advocate, and Secretary of Commerce Sinclair Weeks. Moreover, he has left legislative matters pretty much up to Sen. Taft and other Republicans on Capitol Hill. The White House will keep its silence or send up rather innocuous recommendations that will be acceptable to both Durkin and Weeks. That doesn't help much.

• **Nobody Loves It**—Republicans in Congress are aware that any amendments will make the law tougher for labor, and many would just as soon stick with Taft-Hartley rather than stir up more labor opposition for next year's elections.

Democrats aren't anxious for any action, either. They would like to make the Republicans' failure to keep their promise a political issue. They favor repeal, anyhow.

Employers would like to see some tightening of the law in places, but aren't pushing so long as Taft-Hartley is still available.

• **Not Even Labor**—AFL and CIO leaders admit privately that any labor law amendments out of this Congress would not be to labor's advantage, so they don't have much to lose if they fail to get any revision now. Proposed amendments in labor's favor—that have any chance—are not too important. Labor, too, would like to keep Taft-Hartley as an issue in next year's election campaigns.

The strangest, and perhaps most impressive, development on the Taft-Hartley issue is how far apart everybody is at this late stage after starting out in an atmosphere of general agreement and cooperation.

It seems incredible that, after all the efforts of Sen. Smith to sift out areas of agreement from both labor and management leaders, the friendly atmosphere when Durkin's appointment was up for confirmation, and the promises on all sides—including organized labor—to work together to make Taft-Hartley acceptable to both labor and management, Durkin at this time comes up with recommendations that "shock" management, and the Senate committee staff drafts a bill that labor finds even more objectionable than the Taft-Hartley act.

The Pictures—Cover by Bern Keating. Harris & Ewing—133 (lt.); Martin Harris—66 (top); Int. News—28 (top rt.), 133 (rt.) Bob Isear—56, 57, 66 (bot.), 86; Bern Keating—72, 73, 76, 77; Herb Kratovil—30, 31; Jay Leviton—146; 147; Ornl—48; United Press—132.

NEW TAPE BANDING METHOD SAVES $1.75 PER PALLET!

Needs no protective padding!

Single strip holds entire pallet!

Can't crush or cut into cartons!

Sticks tight—can't slip or slide!

Only top layer needs banding!

Requires 60% less banding material!

Forget old-fashioned banding methods and materials! Thorough testing of this new tape method proves a single strip of "Scotch" Brand Filament Tape is all you need to hold a palletized load in perfect shape!

Just wrap the tape around the top layer of containers and the job's done. See how this super-strong tape sticks tight, doesn't slip or slide, never cuts into cartons. And this tape is as easy to remove as it is to apply—no special equipment required!

No wonder manufacturers like Motor Wheel Corporation, Lansing, Michigan, report savings of $1.75 per pallet (like the one illustrated) over conventional banding methods!

Try it yourself and see! Order "Scotch" Brand Filament Tape—in red, white, black or transparent—from your supplier today!

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separate operations

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Rotor Support

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Yes, 57 different machining operations were performed on this Rotor Support—a tiny part little larger than a half dollar!

Most tolerances had to be within 0.0001 in., and the "ears" had to be aligned within 0.00005 in.! It was like engraving the Gettysburg Address on the head of a pin.

What's more, since job quantity was limited, tooling costs had to be kept to a minimum. We did this by using multiple-purpose fixtures wherever possible—14 in all. One fixture alone served for both jig-grinding and boring of the "ears" to 0.00005 in.

You might keep this example in mind—particularly if you're looking for a reliable source to guide your difficult instrument problems from blueprint stage right on to final assembly. In short, if you call it difficult—call Daco.

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Steel Boost, Too?

Wage talks next week are expected to bring a quick raise, with 11¢ an hour frequently mentioned.

United States Steel Corp. and United Steelworkers of America (CIO) will resume wage bargaining in Pittsburgh next week. A settlement may come quickly when they do. Last week's agreement between General Motors and CIO's United Auto Workers (page 25) cleared away one major steel issue. There no longer is a question of whether a raise should be given; it's just how much should be paid for steel peace in 1953.

Informed guesses in Pittsburgh and New York steel circles this week range between 10¢ and 15¢, and an 11¢-an-hour increased wage bill for mills is a frequently heard estimate.

• **"Hard to Justify"**—Despite the fact that nobody is talking steel strike now, and everybody seems agreed there will be a raise, many steel people cling to their original argument (BW—May2 '53,p148) that "it's pretty hard to economically justify doing anything" on wages this year.

Then why a raise? There are a number of reasons:

• The industry is genuinely interested in avoiding labor strife this year; it took a costly strike last year and looks for real trouble with USW in 1954, when the union plans to fight for a guaranteed annual wage and big pension and insurance concessions.

• Major companies also want to help David J. McDonald strengthen his position as president of USW, successor to the late Philip Murray. This isn't simply a friendly gesture toward McDonald; it has some practical reasoning behind it. The industry generally feels that strong USW leadership might be troublesome at contract-bargaining time, but is a guarantee of stabilized relations in the industry between negotiations.

• Even if the steel industry wanted to take a no-increase stand, it probably couldn't now that General Motors has made major concessions to UAW voluntarily, and without a serious strike threat being raised. Ford Motor Co. followed quickly with similar concessions, including a boost in pension benefits. One by one, other auto manufacturers fell into line behind the leaders.

The auto agreements cut the ground out from under steel industry arguments that steelworkers' wages have outstepped those in other industries (BW—May23'53,p150). They gave

USW a chance to say that a minimum 7¢ increase is necessary just to balance off the UAW increases since the last steel settlement.

• **Totting It Up**—The 7¢ figure is arrived at in this way: When USW signed its contract in June, 1952, auto workers had a 23¢ cost-of-living bonus in paychecks; now, the bonus stands at 24¢—up 1¢ in the year. The auto workers get a 5¢ productivity increase under the new contracts. And GM and Ford increases to skilled workers average out to at least 1¢ an hour for their entire work force. That's a total of 7¢.

Part of the auto workers' gain can, of course, be lost if the cost-of-living drops. USW ignores that. Instead, it points out that the c-of-l is rising again, so steelworkers should have more than the minimum 7¢ to cushion them against price rises. Once they sign for a raise in current bargaining, they won't get another try until mid-1954.

Ford's agreement with USW provides for $137.50-a-month pensions for retired auto workers, including social security. This is an increase similar to one wanted by USW. However, steel bargaining is limited to wages this year, so the Ford settlement—which the company says will require "substantially more money . . . to be put into pension funds"—won't affect steel bargaining.

All at Once . . .

. . . or staggered: that's the question on plant vacations. Most employers seem to prefer the full shutdown.

With summer in the air, the scheduling of vacations crops up again on management's agenda. Employers have a choice: Give all vacations at one time, shutting down the plant, or stagger vacations and keep running all summer. Labor contract provisions, production schedules, and other factors may sometimes eliminate the option. But given a free hand, employers seem to prefer a shutdown.

• **Survey**—Plant-wide shutdowns for vacations staged a comeback last year after a temporary check due to the urgency of production schedules and labor shortages (BW—Jun.28'52,p154). The National Industrial Conference Board, a business-sponsored information clearinghouse (BW—May23'53,p77), has figures that show a continuing trend in that direction.

Pros and cons on the shutdown were culled from a 20-company survey made by NICB. Employers who had switched to the shutdown method gave these reasons for liking it:

In production, it eliminates head-

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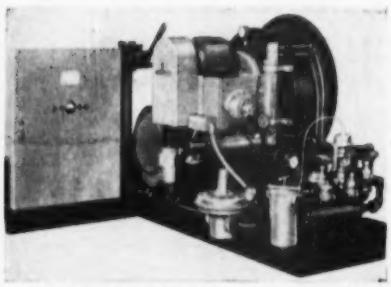
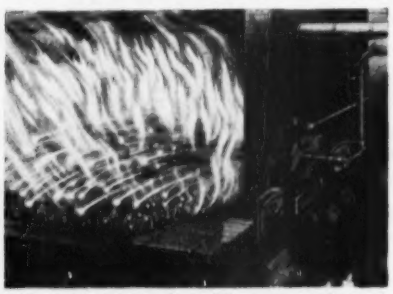
Mr. John H. Miller
General Manager, New Method Laundry, Columbus, Ohio



OIL, GAS PACKAGE UNIT. For oil, gas or oil-gas combination with Scotch marine and other types of boilers. Has integral forced draft and control panel which is completely assembled, wired and tested at factory.



OIL, GAS, COAL. Iron Fireman equipment includes Ring Type gas burner, Rotary oil burner, and Pneumatic Spreader stoker which automatically dries, preheats and conveys coal from bunker to boiler.

With Iron Fireman firing you can burn any fuel you wish interchangeably—oil-gas, gas-coal, oil-coal, or all three. In woodworking plants any or all of these fuels are successfully combined with a fourth—wood waste.

As price advantage shifts from one fuel to another your steam plant can shift with it—for the long pull if necessary. Or you can change fuels every day when desirable. This is routine practice in plants where the gas supply is reduced during daily peak periods. Protection against emergencies may cost you little or nothing when offset by the fuel and labor savings of Iron Fireman multiple fuel firing. For further information write Iron Fireman Manufacturing Co., 3024 W. 106th Street, Cleveland 11, Ohio.

Iron Fireman

AUTOMATIC FIRING FOR HEATING, PROCESSING, POWER

aches. Backlogs don't pile up because of incompetent replacements. Departments aren't depleted to a point where efficiency is impossible, because the plant operates at full complement when it operates.

In cost, it is economical. There is no hiring and training of replacements for skilled and semiskilled jobs throughout the vacation season. Premium payments to relief operators are cut. The paying of all employees at once also reduces accounting costs.

In maintenance, vacation shutdown provides an ideal time for major repair jobs. Production doesn't suffer.

Most employees joined with their bosses in liking it. There's no work over-loading to cover for vacationers, and piece-workers don't get held back by supply curtailments from departments operating short-handed.

• **The Obverse**—Some disadvantages were conceded.

• Special orders may require a call-back for some employees.

• There may be lags in getting up full steam when employees return.

• Customers' plans have to be considered so they won't be handicapped by altered shipping schedules.

• Individual employees may not be happy with the exact choice of the vacation time—they have wives and friends to consider in making their plans.

LABOR BRIEFS

Living costs rose slightly in mid-April, to 113.7% of 1947-49 average costs measured by the Bureau of Labor Statistics' revised index—up from 113.6% in mid-March. BLS' "old" index, used in many escalator contracts, stood at 188.3% of 1935-39 average costs in mid-April. This drop from 190.3% in mid-January (last escalator adjustment date) would have cost General Motors and Ford workers 2¢ in pay except for new contracts, just signed (page 25).

•

Cooperate with employers, convention delegates of the Laundry Workers' International Union (AFL) have been advised by their newly reelected president, Sam J. Byers. It's the only way to keep business profitable, he says.

•

"It's premature," says Ralph Helstein, president of the United Packinghouse Workers (CIO), of a report that UPW plans to merge with AFL's Amalgamated Meat Cutters & Butcher Workmen (BW—May23'53,p152). He says the first steps must be a no-raiding pact and a joint-bargaining agreement. Pat Gorman of the AFL union comments that unless CIO blocks it, "there'll be a merger."

In the good old summer-time!

Sunny skies and balmy weather are the invitation to millions of Americans to enjoy the pleasures of swimming . . . the relaxation of a cooling dip, or the thrill of a dive into sparkling clear water.

Columbia-Southern products help keep swimming the grand, carefree recreation it is. Liquid chlorine keeps swimming pool water free of dangerous bacteria—just as it protects the drinking water of millions of people *every day*. And another Columbia-Southern product, Pittchlor, is widely used for sanitation in locker rooms, showers and other facilities used by bathers, as well as for water treatment in smaller pools.

Columbia-Southern is one of the nation's leading producers of chlorine, alkalies and related chemicals—and with facilities which provide excellent service for the specific needs of any industry.

PITTCHLOR . . . *Convenient Way to Put Chlorine to Work!*

Pittchlor is a high-test calcium hypochlorite, composed of dry white granules which release chlorine in water. It is thus especially useful as a germicide or a bleaching agent for any application where the volume requirements are not sufficient to warrant the use of liquid chlorine. The treatment of smaller water supplies, sanitation in food plants and dairies, and the making of bleach in commercial laundries are typical of the many ways in which Columbia-Southern's Pittchlor puts chlorine to work.

COLUMBIA-SOUTHERN CHEMICAL CORPORATION

SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY

FIFTH AVE. AT BELLEFIELD, PITTSBURGH 13, PENNSYLVANIA

CHLORINE, ALKALIES AND RELATED PRODUCTS • OFFICES IN PRINCIPAL CITIES

Automobiles... *and The National City Bank of New York*

The most amazing feature of an automobile plant is outside it!

If you were to ask a visitor from another country what impresses him most about American automobile factories, you might get a surprising answer. Our guess is he would pass completely over the wonder of the assembly lines, and make no reference to the super-powered "cars of the future" that will be rolling off them soon.

He probably wouldn't even refer to the astounding total of $5 billion in special taxes collected on motor vehicles in 1952, or the 900,000 people who earned nearly $3 billion making automobiles and trucks that year.

What he'd most likely mention first is the size of the parking lot around each factory! In other countries such lots are small. Only comparatively few of the top executives can afford automobiles. Only in America do we need plant parking lots acres in extent — large enough to park a car for *every* employee! This fact symbolizes the triumph not only of the American automobile industry, but of all American enterprise.

Like many other industries, large and small, the automobile industry has found the extensive resources, long experience and far-reaching domestic and overseas facilities of The National City Bank of New York extremely helpful. If we may be of service to you in your business or personal banking, please write or call The National City Bank of New York, 55 Wall Street, New York City.

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PERSONAL BUSINESS

BUSINESS WEEK
MAY 30, 1953

Executives tend to give generously to charity. But they often give too hastily. **That can mean not only a waste of money—sometimes it can cost them a legitimate tax deduction.**

Giving wisely isn't easy these days. **Fund-raising no longer follows a seasonal pattern.** And the number of "causes" seeking aid has broadened tremendously: As soon as the big-league drives end (Red Cross, cancer, polio, heart, etc.), a baffling number of small ones begin.

•

Most such drives are legitimate, worth-while charities, say the experts. Others are rackets, pure and simple. Since no busy executive has time to investigate each one, how can he tell the difference?

There's no pat answer. But certain rules-of-thumb will serve as both a safeguard and a guide. Most important ground rule: **You have the right to ask any organization seeking contributions for complete details of its operation.** In doing so, these are the main points you should look for:

•

• **Tax status.** The organization must be in existence for one year before it can get a tax-exempt status from the Treasury Dept. (Exception: organizations set up to deal with an emergency or a catastrophe.) If it claims such status, that means **it must have written notification** to that effect from the Treasury Dept.

Remember this: You cannot deduct contributions to any organization devoting a substantial part of its activities to **lobbying, trying to influence legislation, or carrying on propaganda.** Likewise, contributions to schools or hospitals privately operated for a profit—whether or not a profit is earned—are also nondeductible.

•

• **Fund-raising expenses. Your own business judgment should be your best guide** in determining whether the percentage going for expenses is about right. But remember that high expenses don't necessarily mean waste—the smaller the drive, the higher the cost. That's especially true if the organization has hired outside fund raisers.

• **Audited financial statement.** Practically all legitimate charitable organizations have their books audited. And they should be willing to show the audit to you, thereby giving you a full statement of income and expense.

•

• **Complete program.** You're justified in knowing what is being done with the money you are to give. If you're interested in an organization, **ask for a complete program of its aims and goals.** If the organization is one making grants, you are entitled to know who the recipients of the grants will be.

•

• **Telephone solicitations.** Never subscribe to a "cause" purely on the basis of a phone call—unless you know the person and what he represents. **Be especially wary of the caller who identifies himself as an official** of some kind, such as a judge. That type of approach has netted handsome sums for a lot of swindlers.

That doesn't mean the caller may not be on legitimate business. You can find out by having him put his whole case in a letter.

•

• **Unordered merchandise.** This method of solicitation—which is growing tremendously—has been repeatedly condemned by the National Better Business Bureau. It works this way:

You receive through the mail a piece of merchandise. It may range

anywhere from ball-point pens to a plaque with the Ten Commandments. With it comes a plea for a contribution to the charity sponsoring the mailing. Most people feel they must send in a contribution. That isn't the case.

•

If you get such merchandise, you are not obligated to (1) acknowledge its receipt; (2) return it; (3) pay for it (unless used); (4) give it particular care; (5) keep it beyond a reasonable period of time.

You are obliged to do this: **If the shipper or his agent calls for it in person, you must surrender it to him.** But you can demand payment of any storage charges before relinquishing it.

If in doubt about any local charitable organization, **clear with your local chamber of commerce.** If it's regional or national in scope, **apply to the National Better Business Bureau, Chrysler Bldg., New York.**

•

Summer suits this year will come in the widest variety of fabrics ever offered in men's clothing. You can expect prices to be about the same as last year. The fabric you get depends on what you want in the suit.

Biggest trend is toward blends of synthetic fibers—Dacron, Orlon, nylon, acetate. The main reason is their ability to retain crease and resist wrinkling even under extreme conditions. But they tend not to be so cool as a tropical worsted or a cord.

•

If you want a good-looking, cool, comfortable suit, you might look at silk shantung ($55 up). Don't expect to wear it every day: It won't withstand wrinkling like the synthetics. But many consider it high style.

The experts say that the coolest suits are still the cords. But they lose their shape faster than other kinds. (New this season is a cord of Orlon-nylon blend, said to be completely washable with no pressing needed. It sells for around $50.)

Even though its popularity is down this year, **don't overlook the tropical worsted.** This old standby is still considered by many to be the best all-round summer suit.

•

Stylewise, you'll find three out of every four suits the two-button, single-breasted type, with either patch or flap pockets and center vents in the rear. You'll also note a trend toward darker shades. Nubs (colored yarns in the fabric), slubs (fibers standing out from the surface of the cloth), and splashes (colored lines) are more popular than ever.

•

Note for your calendar: The second installment of your Federal Estimated Income Tax is due June 15.

•

There has been growing concern within the medical profession over serious side-effect of use of penicillin. In a small percentage of cases, it has caused everything from hives and asthma to convulsions and shock.

Food & Drug Administration has cracked down on the antibiotic's indiscriminate use. It has issued orders to manufacturers to include with all penicillin preparations warnings to doctors on how to avoid or meet serious side-effects.

•

Your children in school should have no trouble finding jobs this summer. The Dept. of Labor says job opportunities will be higher than ever.

Contents copyrighted under the general copyright on the May 30, 1953, Issue—Business Week, 330 W. 42nd St., New York, N. Y.

No other drive quite filled the bill...

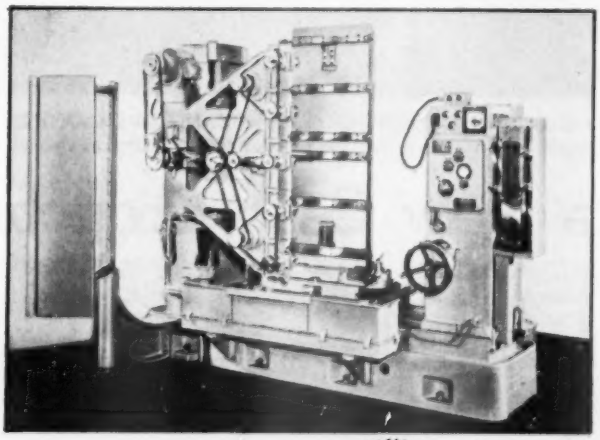
Pratt & Whitney finds Gilmer "Timing®" Belt Drives the solution to a machine design problem

A machine tool of watch-like precision is the Pratt & Whitney Automatic Duplicating Machine pictured below. Its four cutting spindles, guided by a fifth *tracer* spindle, simultaneously reproduce four identical forging dies—such as required for jet turbine blades.

Accuracy, finish and tool life all demand spindle drives without the slightest slippage or speed variation. Round belts were formerly employed. These required large-diameter pulleys and high initial tension on the drives. Even so, slippage could not be prevented and belt breakage was frequent. Gears and chain drives were ruled out because they would have involved lubrication problems, drive enclosures and added weight.

Completely satisfactory operation of the machine was made possible when Pratt & Whitney engineers adopted the Gilmer "Timing" Belt Drive—the revolutionary toothed-belt drive with the steel-cable backbone . . . the only positive power transmission medium that requires no lubrication!

Source of many never-before-possible design improvements, the Gilmer "Timing" Belt Drive may offer similar possibilities for the re-design and perfection of your own products—particularly if they require a drive having this unique combination of features:



Maintains precise synchronization.

Can be designed for zero backlash.

Transmits power with nearly 100% mechanical efficiency, even when very small diameter pulleys are used.

Provides speed ratios as high as 15-to-1 in a single step.

Capacity: 1/100 to 50 hp in stock drives; to 300 hp on order.

Operates efficiently at speeds from inches per hour to 15,000 fpm.

Needs no initial tension, no take-up.

Requires no lubrication.

For technical assistance or catalog, phone your NYB&P Distributor or write direct to "Timing" Belt Division, New York Belting & Packing Co., Tacony, Philadelphia 35, Pa.

NYB&P

NEW YORK BELTING & PACKING CO. 1 Market St., Passaic, N. J.

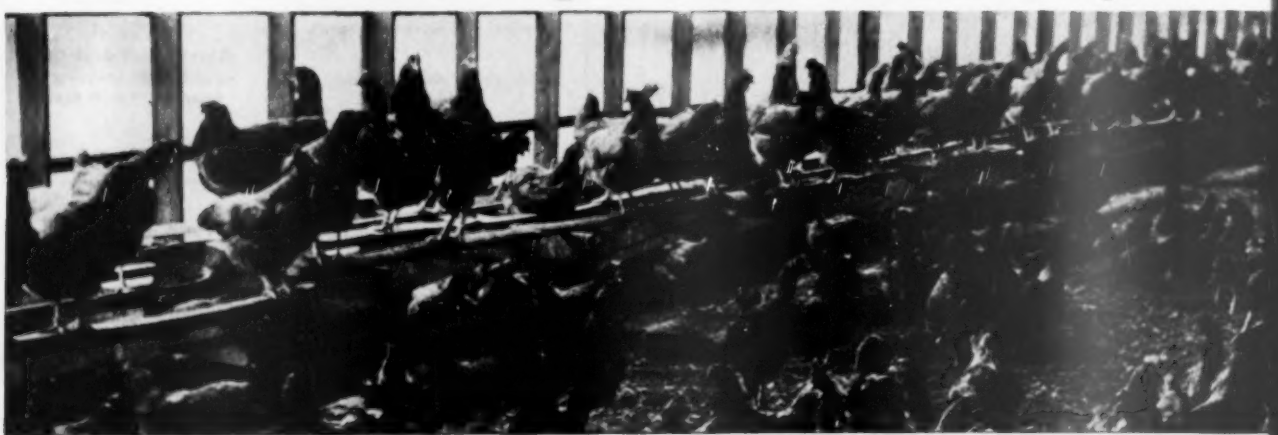
America's Oldest Manufacturer of Industrial Rubber Products

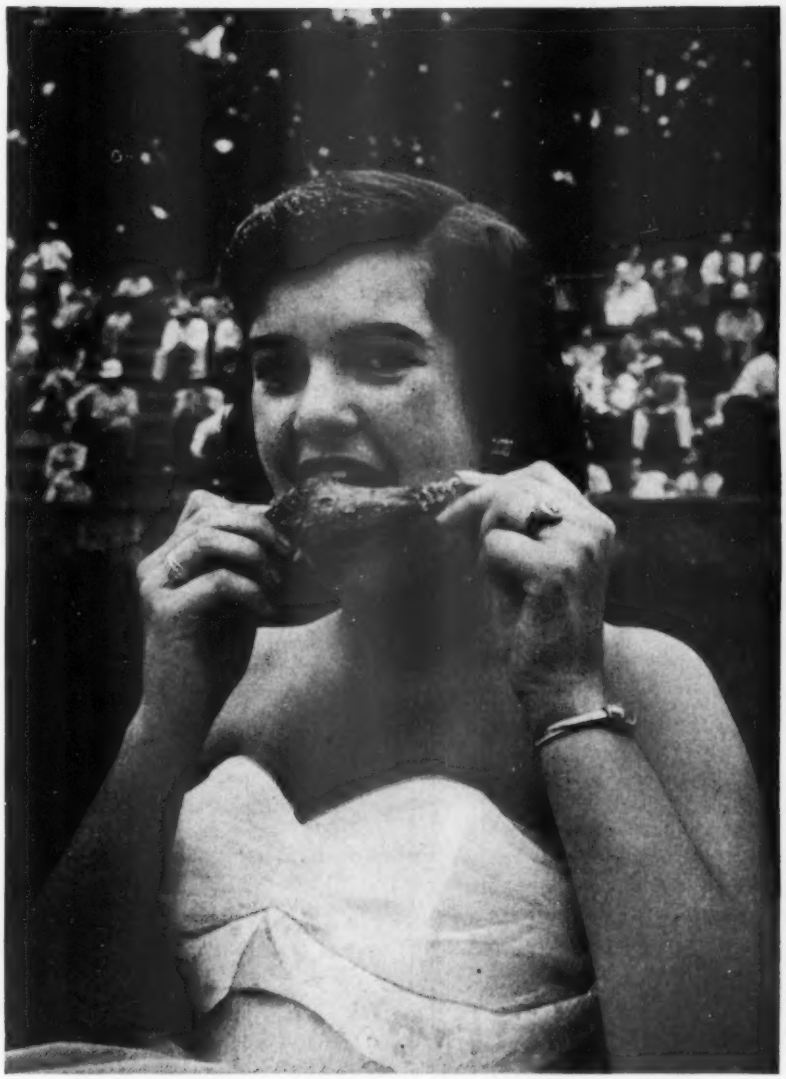
GEORGIA PEACHES help celebrate their state's new role as the nation's No. 1 poultry producer, at the first annual Georgia Poultry Festival in Gainesville.

I'LL TAKE FOUR. Guests of honor were eaten by the dozen. Processor Jesse Jewel, Inc., tested specially prepared southern fried for possible market on people like . . .

POULTRY FEDERATION HEAD, J. M. Tankersley, gobbling his lunch and . . .

Celebrating a New Cash Crop for

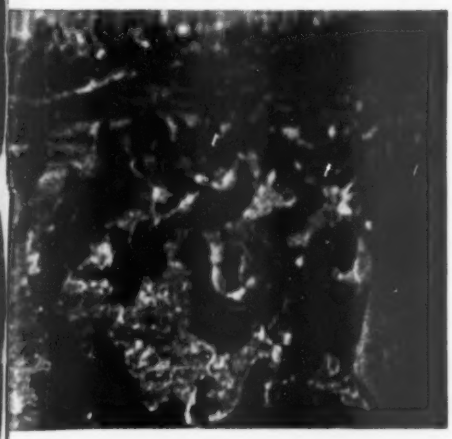




MISS GEORGIA CHICK, 16-year-old Betty Pruitt of Cherokee County, largest broiler-producing county in the state, who was officially crowned later by Miss America. In fact . . .

EVERYBODY HAD FUN but the chickens, as youngsters here tangle with apple.

Georgia



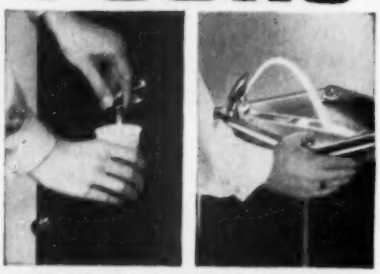
To anyone who's ever had anything to do with chickens, there is only one thing funny about them: They're loaded with puns. So—if you want to feather your nest, go into the broiler business. It may be fowl, but it's profitable.

Ask any poultry farmer in Georgia, Texas, or Arkansas. In a few years, those three states have built up a fabulous poultry industry—mainly on broilers. (To the trade, a broiler is a chicken raised to be eaten rather than for eggs.) Now the nation's biggest poultry producers, they've left Delaware, Maryland, California, and Virginia, the traditional leaders, in the dust.

Georgia, with a 1952 output of 112.6-million birds worth $88.6-million in cold cash, is crowing the loudest. On May 16, Gainesville, heart of the industry, staged the first annual Georgia Poultry Festival to celebrate the fact that Georgia, where output has jumped 225 times in 17 years, today produces 18 out of every 100 U.S. broilers. Farmers, agricultural officials, politicians, kids flocked to watch a parade, listen to speeches, and to gape at their guests of honor and gobble them up, fried crisp and brown.

• **How Come?**—How did Georgia, which produced only 500,000 chickens in 1935, climb to the top of the heap? The Georgia poultry farmer will tell you it's the quality of the Georgia bird. But he'll admit, if he has to, that World War II had something to do with it. The armed forces bought huge amounts for shipment overseas, and housewives turned to fowl as red meat went scarce and sky-high. By the

POURS



Dependable service for plenty of refreshing water at just the right temperature . . . a versatile water cooler, with plus features, outperforming any other cooler of its kind on the market today. Available now in either the pressure model or for bottled water.

STORES

Large size storage compartment is ideal for keeping lunches fresh. Handily keeps 29 beverage or 40 half-pint milk bottles ice cold. Ideal for dentists' or doctors' offices . . . private homes, hospitals, biological laboratories . . . and scores of other places.

FREEZES

Quickly freezes and keeps 3½ pounds or 28 ice cubes ready for instant use. Freezer unit, with the shelf and both trays removed, is large enough for three pints of ice cream. For safe-keeping of contents, compartment door may be locked.

ONE COOLER

does it all . . .

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end of 1952, the steadily increasing demand had pushed the state's general poultry income, including eggs, turkeys, and farm chickens as well as broilers, to $121.4-million. It's now second only to cotton as a farm cash crop in the state.

• **Pushed In**—Texas and Arkansas tell much the same story, though the growth of the poultry business in Texas is more a matter of land economics. As cotton there shifted from cramped East Texas to the cheaper, vaster acreages of West Texas, chickens moved in to take its place. This new chicken area, plus South Texas, which has always been chicken conscious, raised about 65-million broilers worth more than $59.3-million last year.

Two successive apple crop failures in the heavy apple-producing Ozarks area of northwest Arkansas shoved Arkansas farmers into mass production of broilers. The war supplied the extra push and by 1952 broilers were worth $57.3-million to Arkansas farmers and to the state's general poultry income of $95-million.

This does not mean that chickens have died out in the other states. In fact, California has nearly doubled its broiler output since 1945. It merely means that Georgia, Texas, and Arkansas are outproducing them—and that people are eating more chicken.

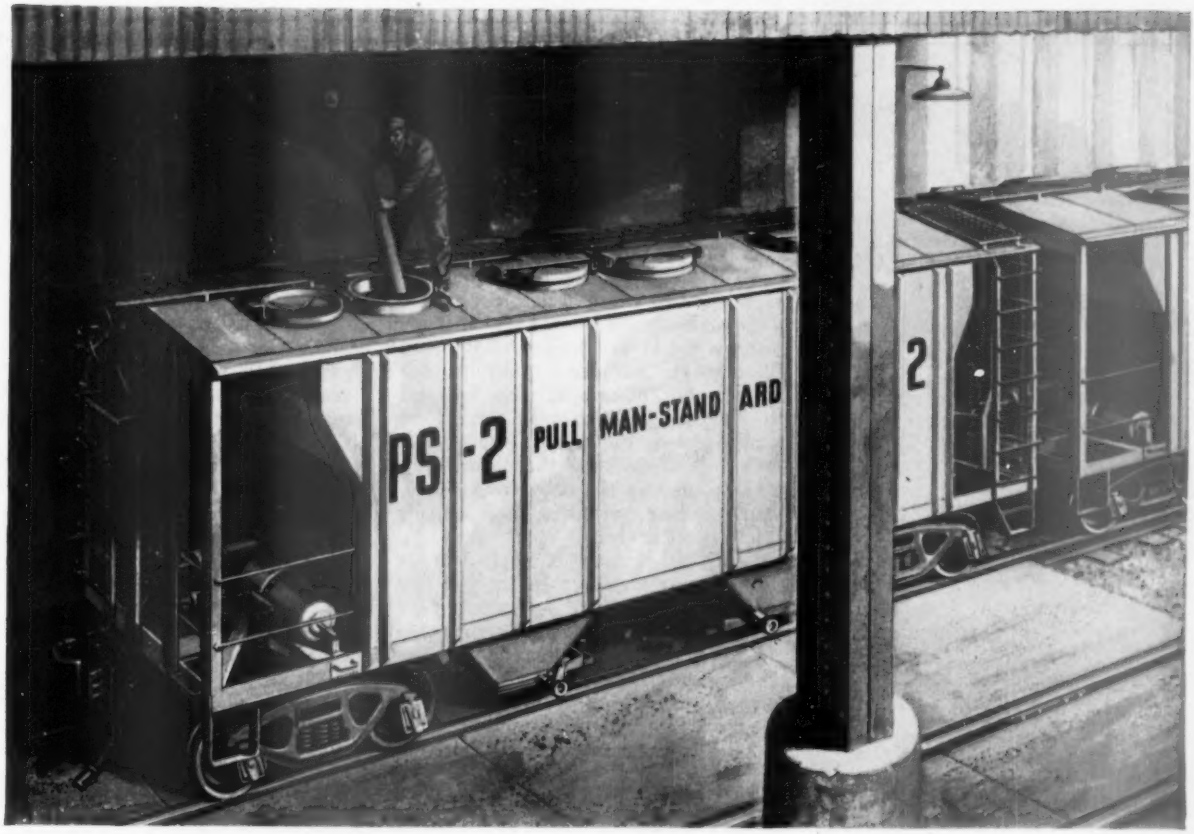
• **From the Bottom**—Georgia's giant poultry industry literally started from scratch 17 years ago, after the state's worst tornado in 1936 left the area poverty-stricken. Farms had run down; King Cotton was about to abdicate.

Gainesville's Jesse D. Jewell, president of Jesse D. Jewell, Inc., and now in just about every phase of the poultry business, is credited with pulling the area out of the hole by getting the poultry industry rolling. The procedure he worked out is basically the same one used in the other poultry-producing states.

Jewell's parents owned a feed store. After the tornado they were stuck with lots of chicken feed. But nobody had any chickens, or any money. So Jesse got the idea of staking the farmers to feed and guaranteeing them that he would sell any chickens they raised. The idea worked and others began to do the same thing.

• **Production Line**—Today Jewell's flock of pedigreed New Hampshire red hens on his experimental farm lay fertile eggs. He hatches them in great incubators heated by electricity. Racks holding the eggs are gently rocked back and forth to imitate the motion of a mother hen moving her egg to keep it evenly warm.

After the sturdy chicks pop out of the shell, Jewell's fleet of trucks takes them to hundreds of farmers in the area, along with chicken feed to fatten



Are Covered Hopper Cars standardized, too?

Yes—the PS-2—to build it stronger, faster, more economically

The important economies realized in handling powdered or granular materials in bulk dictate consideration of covered hopper cars . . . and indicate special attention to the advantages of the PS-2, *standardized*, Cover Hopper Car.

The design of the PS-2 is new. It is the result of an extensive survey conducted by Pullman-Standard among railroads, shippers and consignees. The principals of standardization which proved so successful in the PS-1 Box Car are also applied to the PS-2. The design permits the use of the most modern methods of car construction and production including the extensive use of automatic arc welding.

Besides stronger construction, some of the PS-2's features include: improved circular hatches; smooth self-cleaning hoppers; and a stronger, safer roof.

Let a Pullman-Standard representative tell you about the *economies of the Standardized PS-2.* Just write to the nearest office.

The circular design gives more foot room and allows all driving rains to blow around the hatches instead of being trapped against the flat side of the conventional square type.

WORLD'S LARGEST BUILDER OF FREIGHT AND PASSENGER CARS

PULLMAN-STANDARD

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PLASTIC TAPES

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them up for 10 to 11 weeks. During this period his experts advise the farmers and help in case of sickness. When the chickens are ready, Jewell's trucks go back and pick them up. The farmer gets paid on the basis of weight gained. The chickens are then killed, processed, and sent on their way to be eaten all over the world. Most of Jewell's chickens are frozen; last year he grossed $16-million.

• **Key Man**—Most farmers deal directly with a processor like Jewell, or they work through a feed dealer; few operate independently. By and large, the key man in the broiler business is the feed dealer. He advances credit to the grower who, in turn, is often financed by the feed mill. In some cases, local banks provide the credit. The grower, however, depends on the dealer, who usually supplies the baby chicks, feed, and medicine on credit, then markets the broilers for him.

How the grower is paid depends largely on the dealer. In the last few years, several types of agreements have sprung up. The dealer may guarantee the grower $50 a thousand for the broilers marketed, and split any additional profit 50-50. Or a contract may be based on feed efficiency; the more pounds of broilers marketed for every 100-lb. of feed used, the more the grower gets for his labors.

• **The Neck**—Regardless of the deal, and whatever happens to the chicks while they're under the farmer's wing, the grower doesn't stand to lose anything. The first thing a dealer says to a grower is: "I guarantee you no loss." Of course, if the chickens should die the farmer doesn't make any money, but neither does he lose any.

The dealer does, though, and he's beginning to wonder if playing Santa Claus is sound business. In fact, what to do about it is the No. 1 item for discussion at this June's Feed and Poultry Conference in Atlanta.

• **Sickly**—But the grower has his nightmares, too. The worst one is disease. Chicks are highly susceptible to respiratory diseases that spread overnight through broiler houses where thousands of birds may be bunched together, and new diseases like air-sac, which last year boosted the mortality rate from 5% to 7%, are constantly cropping up. State agricultural experts and universities work closely with the farmers, constantly probing for cures and curbs.

For that reason, growers hover over their chicks like babies. They practically live with them around the clock, to administer medicine, water them, or keep the houses properly heated, or cooled. They stress sanitation. Many keep the lights going constantly, to encourage feeding and growth.

• **Mechanized**—Because output of chickens has grown so since the war, broiler raising has had to shift from the ordinary producton, where a chicken lays eggs for a while and then is killed off and sold. Modern equipment has put the whole operation on a specialized, factory-in-the-field basis.

Today's broilers are produced almost entirely indoors in broiler houses equipped with electric feeders, waterers, and automatic equipment that keeps them under completely controlled temperatures and diet. Many of them are raised on wire, their feet never touching the ground. Since it takes about 10 weeks for the cross-bred broilers to reach market size, many producers can turn out at least three crops a year in the same broiler house, with time between to clean, sterilize, and prepare new beds for new flocks.

• **A Master Breed**—One thing all poultry farmers are watching closely is the chicken-of-tomorrow research that county agents and agricultural experimental stations across the country are working on to create a sturdier, meatier chicken.

The University of Arkansas Agricultural Experiment Station, for instance, and private operators are working hard to develop improved cross-breeds that grow fast, have large breasts (white meat), and feather quickly to prevent the cannibalistic chicks from pecking at each other, which results in low-quality, bare-backed broilers.

One private producer, Lloyd Peterson, of Decatur, Ark., has come up with a cross featuring Cornish and White Rock breeds called the Palomino Pink. It has a light undercolor; that raises the chicken's market value.

Another grower, Jeff Brown of Springdale, has produced a cross he calls Eureka, a mixture of Wyandottes and New Hampshires. It's designed for swift growth.

• **Too Prosperous**—The broiler business has brought prosperity in more ways than one. Major processing plants and allied operations—dressing plants, feed mills, box and chicken coop factories—have sprung up all around the poultry-producing areas. But the fact that chicken-raising has become so profitable has the State of Georgia worried. Many farmers who have gone into the business on a sizable scale have dropped their other crop-growing operations altogether.

Georgia's Commissioner of Agriculture Tom Lindner is trying to get them to do more planting. He, like many others, fears a repeat of the hardship that followed the fall of the state's swollen cotton economy during the depression, is urging the farmers to diversify—and stay diversified. For one thing, he wants them to grow more poultry feed locally instead of depending so heavily on feed shipped from other states.

YOUNG at 70

Seventy years ago the oldest unit of Combustion Engineering began building Heine boilers—an advanced design of that period. Since then, the growth of the parent organization to its front-rank position has paralleled major advances in steam generation which Combustion has pioneered or made important contributions to.

Forward-looking, vigorous, continuing research—matured by 70 years of experience—is largely the reason that C-E equipment is found in so many of the country's most efficient power stations.

You, and every user of steam generating equipment, may benefit from this record of progressive improvement. For all Combustion equipment, from the smallest "package" boiler that heats a hospital to the largest boilers in the world, reflects 70 years of pioneering new frontiers.

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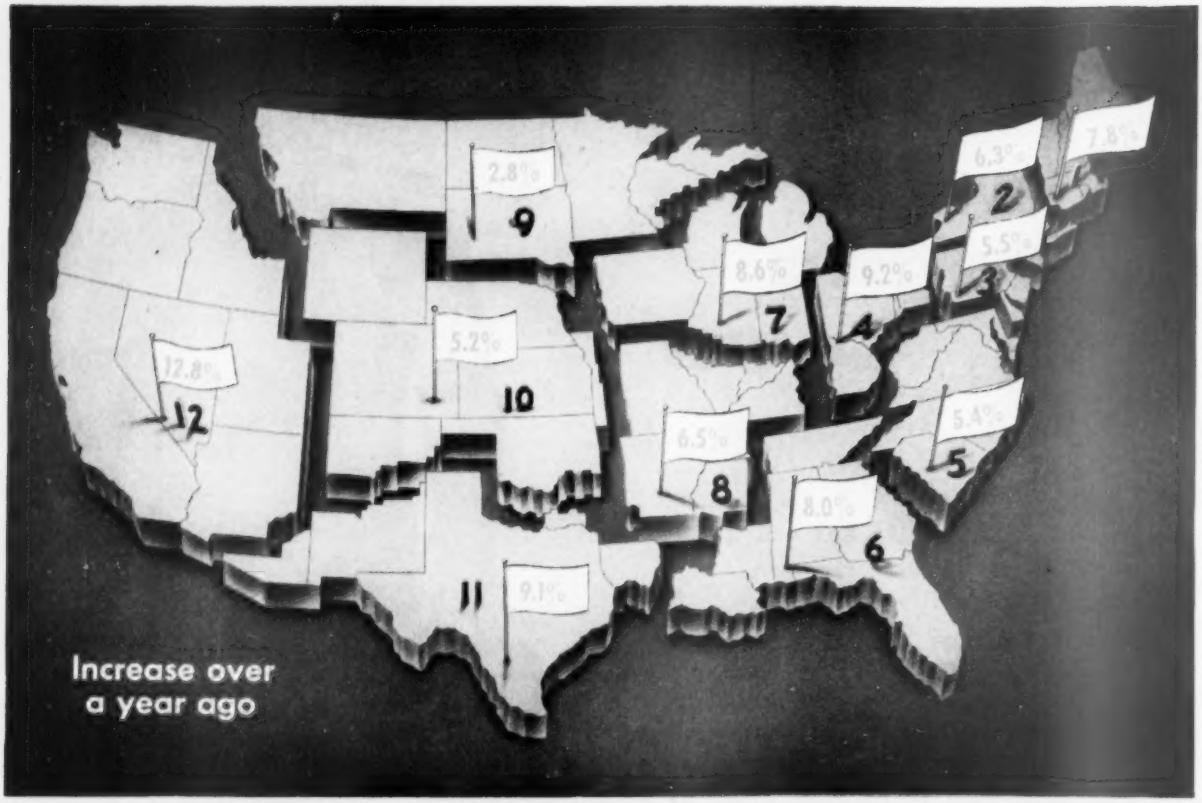


Federal Reserve District	March 1952	February 1953	March 1953
1. Boston	235.9	251.4	254.2
2. New York	252.4	263.4	268.3
3. Philadelphia	252.8	265.3	266.7
4. Cleveland	270.9	294.2	295.8
5. Richmond	292.2	309.9	307.9
6. Atlanta	329.2	358.3	355.5
7. Chicago	278.7	298.3	302.8
8. St. Louis	276.4	296.3	294.5
9. Minneapolis	308.8	314.2	317.5
10. Kansas City	343.1	358.8	360.9
11. Dallas	375.1	411.0	409.2
12. San Francisco	303.1	342.9	341.8
U.S. Composite	282.6	302.9	304.7

1941 = 100, adjusted for seasonal
March figures preliminary; February revised

Incomes Tilt Upward Again

After moving sideways in January and February, income nosed upward again in March. But the gain, according to the national composite of BUSINESS WEEK's Regional Income Indexes, was only 0.6%. Month-to-month changes for the individual regions were also small; New York led with a rise of 1.9%.

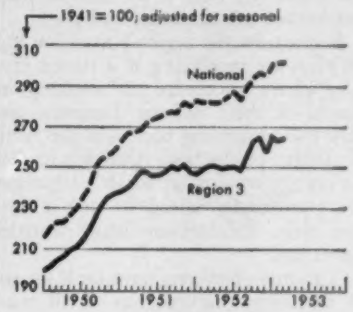
For the country as a whole, income in March was 7.8% ahead of March, 1952—the highest year-to-year gain in a long time.

• **More Employed**—The March-to-March shift toward higher income and employment is reflected in the Dept. of Labor's classification of labor market areas. In March, 1952, major centers such as New York City and Detroit were listed as having substantial labor surpluses; now Providence, R. I., is the only city with more than a half million population that still has a labor surplus. In March, 1952, 20% of the country's workers were in labor surplus areas; now, only 3.7%.

Sparked by improving conditions in Detroit, the Chicago region made the most spectacular showing in reducing unemployment. A year ago, eight of the region's areas had substantial labor surpluses; of these, only Terre Haute, Ind., is still on the list. The Boston re-

gion showed the second largest decline in unemployment. The decisive factors here were a pickup in demand for the region's textile and shoe industries, and growing defense production.

Here's how BUSINESS WEEK reporters in four of the 12 regions see the news that has affected income since March:



Philadelphia

THE PHILADELPHIA REGION, over-all, is doing fine. Only the coal mining areas are in bad shape; elsewhere the picture is bright indeed. Employment and earnings are very high, department store sales are good, and industry continues to expand steadily.

In Philadelphia itself, employment reached an all-time peak in April—with 97% of the civilian labor force at work—and employers expected to hire another 15,000 by the end of May.

• **Port Business**—Activity in the Port of Philadelphia (including the entire customs district, from Trenton, N. J., to the Atlantic Ocean) for the first four months of 1953 was better than 6% ahead of 1952. Probably 1953 will be the best year in the port's history.

U. S. Steel's new Fairless plant will become more and more important to port business. Coal and ore for the plant are already moving up the Delaware River as far as Philadelphia; these shipments will soon be coming at the rate of 4,000 tons daily. And when dredging operations in the upper Delaware are completed, and large ships can go right through to the plant, an estimated 17-million tons of coal and ore a year will go that way.

The high employment pattern is the rule for most of the labor markets throughout Pennsylvania, Delaware, and southern New Jersey. Harrisburg, Lancaster, and York, Pa., are doing very well. All of Bucks County, Pa., of course, is booming because of the Fairless plant at Morrisville. Acting as a

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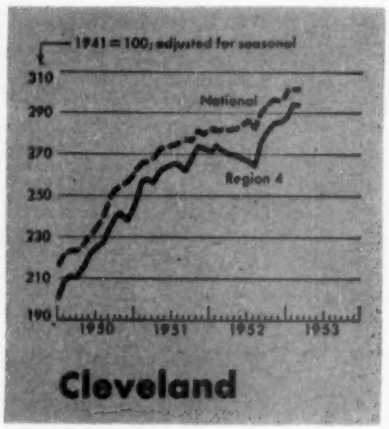
customer-neighbor to the Fairless plant, Pittsburgh Standard Conduit Co. will start operations in its new plant in July. Employment eventually will be over 200.

In the southern New Jersey resort areas, employment is already on its seasonal upswing. With advance registrations higher than ever before, resort people are preparing for what they think will be their biggest season ever.

• **Mines Hard Hit**—The coal mining areas of Pennsylvania continue to be dealt one blow after another, as more mines close down. Schuylkill County got another setback when the Defense Dept. announced that it will close the Indiantown Gap military reservation on Sept. 1. In what is already a distressed area, some 1,500 civilian workers will lose their jobs. In Luzerne County, claims for employment compensation are running some 75% ahead of a year ago. Some help is coming to Nanticoke, in the heart of Luzerne County. A new sportswear plant, which will employ 450 by June 30, has come to the town.

• **Farmers Do Well**—Over-all farm prospects are bright in the region. The cash take from farm marketings so far this year is running ahead of 1952 by a slight margin. Farmers' production plans are high, and the weather, so far, has been excellent. The region's pasture conditions are about the best in the country, except for New England.

Farm land values are stable through most of the region, slightly higher than last year in New Jersey.



BUSINESS in the Cleveland region is rolling at a very high rate. But it shows signs of leveling off—and there are even a few soft spots beginning to develop here and there.

Appliance makers, for example, are cutting back. Sales of some items, like driers and refrigerators, have slowed down. Some plants are laying off workers; others are trying first to switch to faster-moving items. The industry still predicts that 1953 sales will beat those in 1952, but by a small—and smaller than expected—margin.

• **Mainstay**—Auto production is going at a great rate, and as long as it stays that way the many industries in this region that supply the auto makers will stay in fine shape. But auto production now is running at an annual rate substantially above the 5.5-million to 6-million new cars Detroit expected to produce—and be able to sell—in 1953. The high rate now may mean a sharper than usual cutback in the second half of the year—a cutback that would be felt immediately in the region's important auto parts industry and in its sales of steel, nonferrous metals, tires, and glass.

Right now the region's machine tool builders are producing at a record rate. They have succeeded in working off much of their defense business, and now they're getting back into the swing of civilian production. Although civilian orders are coming in nicely, shipments are consistently ahead of new orders, and order backlogs are being whittled down fast.

Tire manufacturers have built up one of the biggest inventories of all time. But they, too, are producing at a very high rate—with some plants operating seven days a week.

Expansion of employment in aircraft and other defense plants has slowed down in recent weeks. Timken-Detroit Axle Co. will close its plant at Newark, near Columbus, around June 1, affecting some 2,000 workers. Reason: a cutback in defense orders.

• **Coal**—The region's perennial soft spot—the coal fields of western Pennsylvania and eastern Ohio—is still soft. Here the captive mines (those owned by the steel companies), and the large, mechanized mines with yearly contracts from big coal users like the utilities, are doing well. But from the independents who sell to the general market there are steady reports of mine closures. Business may pick up in a few months, though; coal stocks above ground have been worked down to their lowest point since 1951.

• **The Cities**—Employment in most of the region's major cities is still going up. Cleveland industry estimates it will need 10,000 more workers by June 15. The Fisher Body plant of General Motors Corp. continues to hire at a rate of 100 workers a week; the company's Chevrolet plant, with a force of 7,000, still needs 500 workers. Thompson Products, Inc., must find 1,100 workers to man its new plant in Willoughby, on the outskirts of Cleveland.

The situation is much the same in Cincinnati, Toledo, and Youngstown, with high employment currently and estimates of higher employment to come.

• **Farms**—Prospects for the region's farm income are still uncertain. The

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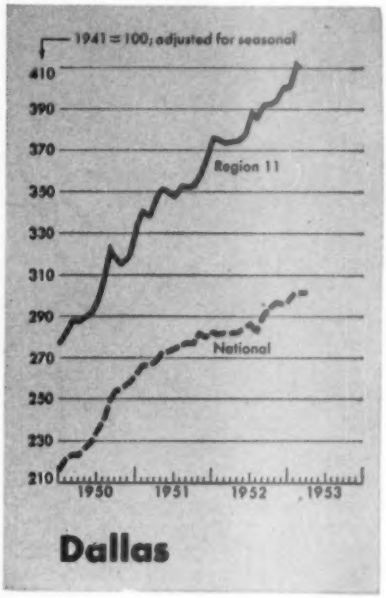
best piece of news is the improvement in Ohio's important wheat crop. As a result of good weather, the crop forecast is up by 40% since last December. The pig crop is currently running behind last year; but with pork prices up and corn prices down, the corn-hog ratio points to a higher pig crop this fall.



INDUSTRY, considerably better off than agriculture in the Dallas region, continues to hum at high levels of production and employment.

• **Fast Clip**—In Dallas itself, employment is running some 12,000 ahead of a year ago. When the final count for May is in, it will probably show an all-time record—and expansion is expected to continue through July. But labor is plentiful, mainly because of the large number of out-of-towners coming to Dallas to look for work.

Ford Motor Co.'s plant in Dallas is going back to a two-shift schedule, adding about 1,000 workers to the payroll, and doubling its production of cars and trucks.

• **Still Coming**—One of the brightest spots in the region's picture is the rush of chemical companies to build polyethylene plants in Texas. Polyethylene plastic is made from byproducts of petroleum and natural gas production—which makes its big boom in Texas a natural. The Bakelite Co., division of Union Carbide & Carbon Corp., will build two of its three new plants in Texas, one at Texas City and the other at Seadrift. Dow Chemical Co. is now building a large plant in Freeport, and Spencer Chemical Co. is planning to build one near Orange.

• **Farm Hurdles**—The region's farmers are working their way into what may

well turn out to be one of the poorest farm years since the 1930s. Along with the handicap of two years of drought, the region faces a persistent downtrend in the prices of livestock, cotton, and food grains—its main sources of income.

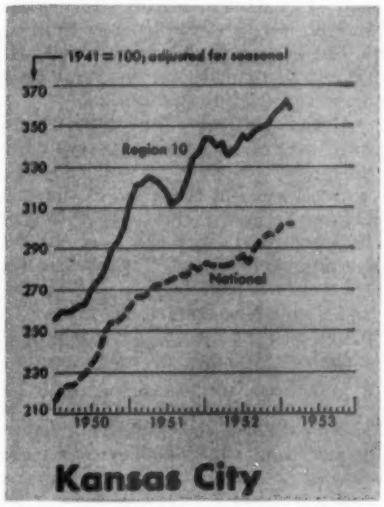
The drought belt runs through central and western Texas, and spreads northward over the Texas Panhandle. In the eastern parts of the region the weather has been a lot better.

Central and western Texas ranchers are now paying $50 to $60 a ton for alfalfa and hay from the Midwest to keep their herds alive. They have their fingers crossed that summer will bring a break in the drought and revive their pastures. Many ranches are closing down; in others, herds are being sharply reduced. In the past few weeks, Texas cattle have been streaming to market.

Ranchers in eastern Texas aren't having it quite so rough. Their pastures are good; the only problem has been the drop in the market price.

Wheat in the western and Panhandle parts of Texas is just about gone. Some farmers are turning cattle out to graze on the dying wheat.

Commercial vegetable production so far is ahead of 1952. And farmers say it looks like a bumper rice crop—with prices now over 30% higher than last year.



News in the Kansas City region centers on agriculture—and it is far from rosy. Both the wheat and cattle businesses—the region's two main income producers—have suffered. Drought has knocked down the wheat crop, and the plunge in cattle prices has wiped out huge values in cattle inventories and put many cattle feeders in the red.

• **Wheat Worry**—One of the main southwestern drought areas covers

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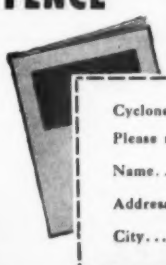

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parts of four states in this region—Oklahoma, Kansas, Colorado, and New Mexico. In much of this area the soil is now powdery enough to be lifted away by any wind, and gulfward-moving dust storms have harassed the sections this spring.

As of May 1, the Dept. of Agriculture figured that the winter wheat crop in the region's four wheat-producing states would be half of last year's and about 25% below average. The only sunshine in the picture is the huge carryover from 1952's bumper wheat crop, a substantial part of which is still in the farmers' hands. In Kansas, for example, wheat stocks on farms as of Apr. 1 came to 68-million bu.—as compared with 8-million bu. in 1952, and an average of 34-million bu. for the 10 years from 1942-1951. Sales of this carryover wheat will go a long way toward cushioning the drop in income from this year's thin crop.

• **Trouble Brewing**—The region's cattle inventories are way up, value of these inventories way down. A sharp rise in cow slaughter will be the signal that a downtrend in beef production has started but this has not happened yet. In spite of the price shellacking, livestock men are still building their herds by holding back cows and shipping steers and heifers instead.

Prosperity in this region rests heavily on the well-being of the farmer. With a long series of good years under his belt, the farmer still has the money to buy, but he's getting more cautious, is becoming a harder man to sell. Retailers, particularly in the rural areas, are already feeling the squeeze.

• **Urban Outlook**—The region's business, over-all, is holding its own. Employment generally is following the uptrend usual at this time of the year. Denver is in the midst of its biggest building spurt since the '20s. As one correspondent put it, "everywhere you go there's a huge hole in the ground, and a shovel making it deeper." Estimates of the value of construction go as high as $100-million—high for a town of 500,000.

Some of the region's cities are beginning to feel the cutback in federal expenditures. In Oklahoma City, for example, seasonal gains in manufacturing and construction are being offset by a cut in government employment. Wichita has long been the region's strongest city, but, with a good deal of its prosperity resting on expanding aircraft production, it is now feeling the drop in orders. Reduction in personnel for the Bureau of Reclamation hit hard in Denver—the Denver Post estimates $2.5-million lost in annual payroll.

• **Come All**—Colorado and Wyoming are preparing for a banner tourist year—both expect tourists to spend 10% more than last year.

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No Easy Solution

In presenting his program for security with solvency last week, President Eisenhower was undoubtedly faced with an exceedingly disagreeable task. After only four months in office, he found it necessary to tell the nation that there was no immediate prospect for either a balanced budget or tax relief.

It would be idle to pretend that this is a happy situation. On the contrary, it was probably as painful for the President to announce this grim outlook as it was for his supporters, including the business community, to hear it. And there can be no denying that to businessmen, in general, his decision to ask for extension of the excess-profits tax is the most disappointing blow of all.

On this issue, there is sincere disagreement with President Eisenhower's judgment. Many thoughtful members of the business community have long been convinced that EPT is basically pernicious and discriminatory. It sharply limits incentive at the same time that it encourages waste and extravagance. Under present circumstances, moreover, it is calculated to produce such relatively small yields that it cannot properly be regarded as a counter-inflationary measure. Indeed, it is more likely to contribute to inflationary trends than to combat them.

Sensible businessmen are well aware of the political uproar that would have resulted from cutting out the excess-profits tax without simultaneously reducing taxes on personal incomes. They recognize, too, that eliminating EPT might precipitate cuts in other, more useful taxes, which could mean disaster. But recognition of the political exigencies is not much of a solace toward easing the pain, nor will it change the business world's opinion that the excess-profits tax is bad and ought to go.

Wanted: More Brains

No single group contributes more to the well-being of the nation than the small number of men and women in the sciences and professions. We have long been aware that there is a serious shortage of these brainworkers, but important new findings on the scarcity have just been revealed in a study by the National Manpower Council (BW—May23'53,p29).

At present, we have but 155,000 scientists, who constitute only two-tenths of one percent of the working population. Of this group, only 15,000 are devoted to the fundamental research that "opens up new frontiers of human knowledge."

It is not enough, the report states, merely to increase the number of brainworkers. It is also necessary to utilize them properly. Moreover, quality must be improved, for two second-rate engineers are not the equivalent of one first-rate engineer, nor can a number of general practitioners make up for the lack of specialists.

The council lists a 14-point program to help increase the supply both quantitatively and qualitatively. Most of its proposals are exploratory, for the report admits there is no magic solution to the problem.

This is because a free society must rely on voluntary methods, in contrast to a dictatorship, where coercion can increase the supply. Indeed, the council already fears that government research may be diverting too much from the colleges' primary tasks of fundamental research and the training of students. It recommends a study of this phase of the problem, and goes on to suggest that business groups should intensify their efforts to provide support.

Greater financial help is needed not only to maintain the present flow but to extend opportunities. For example, less than half of those able to attain a college degree enter an institution of higher learning. We cannot feel secure with our educational system, vast as it is, so long as we experience such a huge waste in resources.

Along with the funds required to expand opportunities, the report declares it is extremely important to encourage a greater appreciation of the brainworkers in our society. Some professions, of course, enjoy a large measure of respect, but scientists and other intellectuals rarely receive the esteem or status that is their due.

There is no telling just how much this widespread antipathy for our professions adds to the waste of human resources, but we have to agree with the council that it must be considerable. In particular, it has stopped many young men and women from realizing their potential because they find it safer to conform.

This is sobering evidence, especially since the great strides in technological progress of the past few years have created a huge demand for brainworkers in many fields. Unless we are willing to provide funds and encouragement on the broadest possible scale, there is no guarantee that this demand will be safely met.

Love among the Russians

We don't know whether it is due to spring or the Russian peace dove, but the Kremlin has allowed open criticism of its official notion of love. The course of true love, as depicted in Soviet films and fiction, ran on tractor treads. Ivan didn't catch Olga unless he was overfulfilling his quota by 100%. By the same token, if Sonya failed to do her bit for the five-year plan, she remained an old maid.

Presumably this will be changed now. A young man's fancy won't automatically turn to his lathe. Boy will meet girl just as in the degenerate capitalist world, and the Kremlin will keep industry out of the picture.

This is a profound sign of change, but we wonder if Communist habits have transformed all that much. It's a pretty safe bet that the Kremlin will soon announce that love is a Russian discovery that the rest of the world has despoiled.

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